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ABSTRACT

The four objectives of this study, conducted in the Montreal school system, were (1) to report the effects on students of having attended open-area elementary schools versus more traditionally constructed schools, (2) to report ways in which interests and aptitudes of pupils may affect their suitability for open-area and open schools, (3) to report the pedagogical advantages of open-area schools, and (4) to report areas in which teachers and administrators in open-area elementary schools would benefit from inservice education. Questionnaires were submitted to teachers and students of elementary and secondary schools in Montreal and Quebec. Results showed that the secondary school itself seems to be a greater influence on adaptation than is open-area elementary schooling. Students in open-area elementary schools tend to be at a slight advantage in their acceptance of responsibility for learning and in some types of social development. No relation was found between pedagogy and architecture, and systematic inservice training of teachers is essential. (Author/LD)

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Report to the Montreal Catholic School Commission
and the Ministry of Education of Quebec

BRUCE M. SHORE and RONALD H. TALI
with the assistance of
Ellen Moss and Cécile Touzin-St-Pierre

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Open-Area Schools--Open Pedagogy

An Investigation of Outcomes at the Elementary and Secondary Levels of Open-Area Elementary Schools

Report to the Montreal Catholic School Commission and
the Ministry of Education of Quebec

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McGill University

September 1978

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The involvement of the Ministry of Education was on two fronts, both through the cooperation of M. Gaston Bernier. The Ministry has agreed to reimburse the Commission for a major portion of the costs within the Montreal schools, and also asked the research team to extend the study to four regions outside Montreal. For this part of the study, the Ministry hired a researcher, made her services available to us, and assumed all the direct costs.

We are especially grateful to the pupils, teachers, and principals who endured our repeated presence in their schools and contributed so much of their experience, wisdom, effort, and time. We further wish to acknowledge our colleagues who have given so generously of their time.

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INTRODUCTION

0.1 This study had four objectives:

0.2 (1) To report on the effects on students upon entry to secondary school of their having attended open-area elementary schools versus more traditionally constructed schools.

0.3 (2) To report on possible ways in which interests and aptitudes of pupils, in groups or as individuals, may affect their suitability for "open area" and "open" schools.

0.4 (3) To report on the pedagogical advantages of open-area schools in the context of the distinction between pedagogy and architecture in these schools.

0.5 (4) To report areas in which teachers and administrators in open-area elementary schools would benefit from in-service education.

0.6 In the main body of this report data are presented in support of each of these objectives in turn, followed by specific conclusions.

0.7 In order to satisfy initial curiosity, and to provide some guidance in reading the report, we begin with a summary of the very broad results. We must emphasize however, that answers to questions such as these are never simple or easily summarized; it is important to have an understanding of the rest of the text, in order to make a knowledgeable response to the four main objectives. Each chapter contains a summary, and Chapters 5 and 6 present important overall statements.

0.8 The general direction of the results presented below are these.

0.9 First, there are few direct and obvious effects of open-area elementary schooling on adaptation to the secondary school. The secondary school itself seems to be a greater influence. There was, however, no evidence of open-area elementary schooling being a detriment to students entering high school.

0.10 Second, students in some open-area elementary schools tended to be at a slight advantage in their acceptance of responsibility for their learning and in some types of social development. Similar advantages were found in some closed-area classes. The critical variable was how the teacher taught in whatever architectural setting. In terms of aptitudes and interests, no clear advice for student placement could be deduced. Teachers and pupils liked open-area schools, though neither chose to be there. Such schools appear to be a useful alternative, if a choice were to exist.

0.11 Third, there is no relation between pedagogy and architecture in these schools. Open-area schools provide opportunities for innovations in teaching and learning methods, but the latter require conscious decisions on the part of all involved. Where this has happened, the results are outstanding. In some cases, it happened in closed-area schools. Examples are cited in the text.

0.12 Fourth, systematic in-service, with the teachers themselves as a major resource, is required. It should include the high schools if they are to respond well to children arriving in their first cycle. It should concentrate first on open pedagogy, not open areas themselves.

Design of the Study

0.13 The detailed plans for the conduct of this study were contained in three documents, previously submitted, which we have enclosed in Appendix 1 to this report. A summary only is presented here.

Kinds of Variables

0.14 The first important decision concerned the kinds of variables that would be examined. We concentrated on noncognitive variables for the students, particularly personal adjustments, satisfaction, independence, and work patterns. For the teachers we concentrated on measuring the openness of their teaching methods or pedagogy.

0.15 We did not emphasize cognitive or academic outcomes for two reasons. First, for their internal purposes, schools give primary attention to the measurement of these types of performance. Open-area and closed-area schools do not have different objectives in terms of scholastic achievement; they follow the same course of study.

0.16 Second, considerable literature already exists on scholastic achievement in different kinds of school environments. Much of that literature reports few statistically significant differences in learning in different types of schools. A few do report some success in favor of traditionally-run schools, particularly in the basic skills, but these (such as N. Bennett, Teaching Styles and Pupil Progress, 1976) also report many exceptional instances of high performance in certain open classrooms.

0.17 Once we arrived in the schools we were reminded of a third reason, on which we commented earlier in the summary: there are few useful records of students' academic achievement on which to base such decisions. It would have been necessary to undertake standardized achievement tests in the sample, and we wanted neither the additional imposition on the students nor the potential political difficulties this could have caused.

0.18 Open areas were created with the hope of adding new dimensions to learning and teaching, primarily in the social and personal domains. These have not been extensively studied. As a consequence, we selected tests which measured different aspects of the variables mentioned in the four objectives. We sought a balance of questionnaires for students and teachers, as well as observations by our research staff. Copies of all the questionnaires and observation scales are supplied for reference in Appendices 6 to 20. Since these questionnaires and observation scales were used with permission or purchased, and are all protected by copyright, we have not included Appendices 6 to 20 in printed copies of this report. Rather, they have been supplied to the signitories of the contract for this research at the Commission and to the Ministry, with an additional copy each for their reference libraries. Nonetheless, we refer to these appendices at appropriate times in this report.

The purpose of each is described, in order, in Chapters 1 to 4.

Sample

0.19 The two parts of the sample, in and out of Montreal, were selected differently. The Montreal sample was a stratified sample covering as much of the area served by the Montreal Catholic School Commission as possible. We took into account geography, socio-economic conditions and language in selecting our secondary schools (grades 7 and 8), and grades 2, 4, and 6 at the elementary schools. In a few cases there were insufficient numbers at these elementary grades, and so students from grades 1, 3, and 5, respectively were added. These elementary levels are referred to as primary (years 1 and 2), intermediate (years 3 and 4), and senior (years 5 and 6), in Chapters 1 to 4.

0.20 The first step was to select the secondary schools. All the first-year students in each were included in the testing, but in order to reduce the testing load, there were two packages of tests randomly distributed in each classroom. Each student wrote half the tests. Some schools were chosen only for the pilot stage of the study, during which tests and testing procedures were tried out.

0.21 For each secondary school, two elementary schools were identified, one open-area and one closed-area, both similar in the characteristics of their students, and both also sending their graduates to that high school.

0.22 In two cases, second open-area schools were designated for comparison, but these schools were not used in the end. A few additional schools were designated for separate study, and portions of the study were conducted in some of them.

0.23 The matching of elementary and secondary schools was not always perfect, and the results are qualified to an unknown degree by the following fact. Students in the high school were categorized as having attended an open-area or closed-area elementary school, but we did not attempt to take into account if this was one of the two particular neighborhood schools we selected. Sometimes it was so, but sometimes not. It is necessary, as a consequence, not to attempt to use the results at the elementary level too directly to explain outcomes at the secondary level. We have made a few such extrapolations, cautiously, but have largely kept the two discussions separate. Only a longitudinal study tracing the school careers of individual students can answer such cause-and-effect questions. The present study can contribute ideas nonetheless, as to where to look for the answers.

0.24 The schools outside Montreal, referred to as our Quebec sample in the rest of this report, were suggested to us by the Ministry of Education. Only in retrospect can we judge that similar criteria seem to fit. The Quebec schools seem to have been fairly similar in terms of family income and occupational status. All the schools used are listed in Table 0.1 (p.11). They are not identified in the results part of this study, in order to respect anonymity, however, we acknowledge that confidentiality of school identity is not perfect. The general and most important results of this report do not require knowing exactly which school is which.

0.25 For further information about the schools in our samples, short general descriptions are presented in Appendix 5 (p.142) of this report.

0.26 There is one type of exception to the anonymity referred to above. On many occasions we have very positive remarks to make about a school, usually that it is a good example to others in the matter being discussed. If we are to learn from the examples of our successful colleagues, then we should know who and where they are.

Experiences in the Field

0.27 The study was introduced to the Montreal sample through a general information meeting for principals and representatives of the teachers. Then, for every school both in Montreal and Quebec, we made an initial personal visit to introduce the project to the principal and staff. Normal procedures were followed in securing the willing participation of all concerned. Two schools chose not to participate and were replaced by similar neighboring schools.

0.28 We sometimes discovered that graduates of elementary school "x" no longer went to secondary school "y" and had to change our plans. A few schools asked to be excluded from some part or other of the study, for example, permitting observations only. As already noted, we also discovered very incomplete school records on students, or records which were only partially comparable from school to school.

0.29 Overall, we must note that cooperation was enthusiastic and excellent. We tried to accommodate the preferences of individual schools and teachers within the design of the study.

0.30 We therefore came out with very much more data than could reasonably be reported here. We selected those which most directly permitted us to answer the objectives of the study.

Analysis of the Data

0.31 As in most voluntary school research, the data are a statistician's nightmare! They are important and interesting, but some groups are bigger than others, some data are missing due to student absenteeism or school requests to be exempt from a test, and other similar problems persist.

0.32 One approach to statistical analysis would be to seek the most elaborate, perfect procedure. This would have meant hiring a programmer

TABLE 0.1

Final Sample: Schools Participating in this Study

REGION	SECONDARY School	OPEN-AREA Elementary School	CLOSED-AREA Elementary School
		MONTREAL	
Major Part of Study			
1	Charles LeMoyne	St-Joseph	Ludger Duvernay
2	Lionel Groulx (girls) St-Stanislas (boys)	St-Louis	L.Hippolyte Lafontaine
3	Louis Riel	Guillaume Couture	St-Fabien
A	Cardinal Newman	Nazareth	Luke Callaghan (Girls)
B	Sir Wilfrid Laurier	Gerald McShane	All Saints
Included for Supplementary Study			
3	Marie-Reine		Baril
A		St. Gabriel's	
Used in Pilot Study			
2	Gabriel Souart (girls) Jean-Baptiste Meilleur (boys)	Champlain	
B	John F. Kennedy	St. Michael's	

TABLE 0.1 (continued)

REGION	SECONDARY School	OPEN-AREA Elementary School	CLOSED-AREA Elementary School
QUEBEC			
Major Part of Study Only			
Note 1	Notre Dame	Etincelle	Jacques Cartier
Note 2	Couvent Courville (girls)		
	Ulric Huot (boys)	Commandeur Desjardins	Ste-Brigitte
Note 3	Le Manoir	Le Rucher	La Mennaie
Note 4	Poly-Jeunesse	Vaillancourt	Prince-Rupert

Notes: 1 - Ancienne-Lorette, northwest suburb of Quebec City

2 - Beauport, northeast of Quebec City

3 - Mascouche/Terrebonne, northeast of Montreal

4 - Fabreville/Laval, north suburb of Montreal

since no existing program of the type we had in mind could handle our unequal group sizes, missing data, and pairing of elementary schools (open-area and closed-area) within each region. Another approach is to be less sophisticated about the statistics, hence less certain about statistical significance, but to rely on repetition of patterns and trends in the data, on observation of general results, and on the interest provided by exceptional situations. We chose the latter. In all cases, Montreal and Quebec data were analyzed separately, but the results are presented in parallel.

0.33 This approach led to the following analyses. In the secondary schools we compared means for all students who came from open-area and from closed-area schools, simultaneously with means for the different secondary schools (a "two-variable analysis of variance"). This was carried out for all total test scores, and for tests with subscales, where they existed.

0.34 In the elementary schools, two separate analyses of this kind were conducted for each score and subscale score, first comparing means on school type (open-area and closed-area) and grade simultaneously. Second, overall differences among schools, regardless of grade and type, were computed separately.

0.35 The analysis for questionnaires was slightly different, and separate for respondents in open-area and closed-area schools. Replies to each question were tabulated and expressed in frequencies and percentages, since our greatly varying group sizes made it very difficult to easily interpret the frequencies. Histograms are used in Chapter I to represent certain Personality Profile data.

0.36 Our procedures were to review the computer printouts of statistical results, working in pairs. We marked directly on those sheets what results were particularly noteworthy, and then summarized them in tables of excerpts. All the researchers met several times during October to review these notes, and the report was written and edited during November and December 1977.

0.37 The following chapters present the findings of this study, relative to the four stated objectives.

CHAPTER I

Objective 1

1.1 To report on the effects on students upon entry to secondary school of their having attended open-area elementary schools versus more traditionally constructed schools.

1.2 Six questionnaires were administered by the research team to the secondary schools in the sample. One questionnaire was for the teachers while the other five were for the students. There were also interviews with some of the teachers. The results obtained from the data collected related to Objective 1 are discussed in this section of the report.

1.3 The Personality Profile (see Appendix 6) was completed for each child by the teacher in the receiving secondary school. The rationale for giving this questionnaire was to elicit an overall measure of teachers' impressions of student adjustment to secondary schools. This was done on a scale of 1 to 5 related to the child's adjustment, and to whether this was related to the type of elementary school from which he came, as perceived by the teachers.

1.4 According to the histograms developed from the data, it was interesting to note that there was a very similar pattern for both types of feeder-school pupils in relation to adjustment to secondary school, in the eyes of the secondary school teachers.

1.5 Tables 1.1 and 1.2 present the histograms related to the first question, dealing with adjustment. Teachers appear to rate their high school students' adjustment fairly positively in most cases, with no evident differences between students from open-area or closed-area elementary schools.

Table 1.1

Histogram of General Adjustment for Students from Open-area Schools

```
            Montreal                                 Quebec
            N = 117                                  N = 141
   Rating                                  Rating

   Low 1  xxxxxxxxxxxx (24)                Low 1  xxxxxxxxxxxxx(25)

       2  xxxxxxxx(17)                         2  xxxxxxx(14)

       3  xxxxxxxxxxxxxxx(30                   3  xxxxxxxxxxxxxxxxxxx(35)

       4  xxxxxxxxxxxxxxxxxx(36)               4  xxxxxxxxxxxxxxxxxxxx(39)

  High 5  xxxxxxxxxxxxx(25)               High 5  xxxxxxxxxxxxxx(28)
        ________________________________        ________________________________
        0     10     20     30     40           0     10     20     30     40
           Frequency of responses                  Frequency of responses
```

Table 1.2

Histogram of General Adjustment for students from Closed-area Schools

```
            Montreal                                 Quebec
            N = 120                                  N = 126
   Rating                                  Rating

   Low 1  xxxx(9)                          Low 1  xxxxx(10)

       2  xxxx(8)                              2  xxxxxxxxx(19)

       3  xxxxxxxxxxxxxxxxxxxx(38)             3  xxxxxxxxxxxxxxxxx(33)

       4  xxxxxxxxxxxxxxxxxxxxx(41)            4  xxxxxxxxxxxxxxxxxxxx(37)

  High 5  xxxxxxxxxxxxx(24)               High 5  xxxxxxxxxxxxxxx(27)
        ________________________________        ________________________________
        0     10     20     30     40           0     10     20     30
           Frequency of responses                  Frequency of responses
```

1.6 The other histograms, not shown, were for realism, task persistence, responsibility, attention, dependence, flexibility, comportment, persistence, and compliance. The results were very similar. Adjustment and comportment contained the largest numbers of low ratings for children from schools, as illustrated in Table 1.1.

1.7 On speaking with teachers in interviews, one researcher found that teachers sometimes thought that they could easily identify children from open-area elementary schools, but did not do so with great success. In reality the differences are not great enough to be of any importance, one way or the other.

1.8 When compared with the Quebec sample, Montreal open-area students showed more positive adjustment to secondary schools, in the perception of teachers, however the differences were not great.

1.9 The Survey of Interpersonal Values (see Appendix 7) was given to students in secondary schools because one of the stated goals of open pedagogy is to enhance student orientation skills and values. This survey had six subscales which were (1) support, (2) conformity, (3) recognition, (4) independence, (5) benevolence, and (6) leadership.

1.10 It was, unfortunately, consistently reported by the research team that the students encountered difficulty reading the questions both in English and French. Much interpretation for students was done by the field team and many assumptions were made by students in responding to this questionnaire. Results must therefore be regarded with some caution.

1.11 There were statistically significant interactions between the type of school (open-area or closed-area) that the student came from and the secondary school receiving them. This indicates that differences were observed among specific groups of students either from open-area or closed-area elementary schools attending the secondary schools in the sample.

1.12 In Montreal schools there were statistically significant results in all areas but two, (2) conformity and (6) leadership. Table 1.3 indicates the means for the schools studied. High scores were not concentrated in any one high school; the highest means on different subscales were spread over five different schools.

1.13 Table 1.3 shows the means for the open-area and closed-area elementary schools that feed into the secondary schools in Montreal where there were statistically significant results.

1.14 There were no statistically significant differences between means for graduates of open-area and closed-area elementary schools in the Quebec sample.

1.15 The results in Table 1.3 illustrate the lack of consistency in these results. Some schools contain both very high and low scores on single subscales. Differences between graduates from open-area and closed-area schools were not uniformly in the same direction. The "support" and "recognition" subscales seemed more often to favor graduates of closed-area schools, and "independence" and "benevolence" were more likely favored, if at all, from open-area schools. This might perhaps be interpreted as very mild support for open-area schools achieving part of their social objectives. We do emphasize, however, that the tables also contain exceptions to both these statements.

1.16 The Survey of Interpersonal Values revealed statistically significant differences in Montreal, both between the types of elementary schools (open-area or closed-area) and between the secondary schools where all children are considered together from both types of feeder schools. This suggests that the high schools may have some effect themselves on students' adjustment; not all the differences need be due to the type of elementary schooling. There were no such statistically significant results for the Quebec schools on these six areas of adjustment to the secondary school (see paragraph 1.9).

Table 1.3

Selected Average Scores on Survey of Interpersonal Values in the Montreal Sample

Secondary School	Type of Elementary School	1 Support	3 Recognition	4 Independence	5 Benevolence
1	open-area	16.4	12.3	15.2	16.0
	closed-area	17.5	11.3	16.7	16.2
2(girls)[1]	open-area	18.8	9.3	11.5	24.7
	closed-area	17.7	7.6	12.5	22.1
2(boys)[1]	open-area	15.3	1.5	14.3	17.0
	closed-area	16.8	12.9	14.3	17.5
(1)3	open-area	17.3	10.1	12.1	20.1
	closed-area	16.8	9.1	16.0	18.5
3	open-area	17.4	11.9	17.9	12.9
	closed-area	19.1	9.1	10.7	22.2
4	open-area	13.7	10.8	16.9	17.3
	closed-area	15.1	13.3	15.5	15.7
5	open-area	13.6	11.8	15.6	17.7
	closed-area	16.2	13.3	15.2	16.4

Note: 1. Separate girls' and boys' scores are presented for paired sex-segregated high schools.

1.17 The Coopersmith Scholastic Self-Image questionnaire was also given in the secondary schools of our sample (see Appendix 8). It was included to determine whether students from open-area or closed-area elementary schools arrive at the secondary school with different self perceptions of their scholastic abilities. There are four subscales, (1) general school, (2) social self related to peers, (3) in school, and (4) autonomy in school.

1.18 There were no statistically significant differences in the Montreal schools on self-image. However, in the Quebec sample, statistically significant differences at the secondary level were obtained for students from open-area and closed-area elementary schools, but not always in favor of one or the other type of elementary school. The results were generally in favor of open-area schools.

1.19 Table 1.4 (p.20) shows the averages for the Quebec sample on which statistical significance was found, the total and three subscales, (1) general school, (3) in school, and (4) autonomy in school. Open-area school graduates' averages tend to be higher in most respects. It is interesting to note that the paired elementary schools for secondary school 9 are so similar as to be almost identical in student responses. On the other hand, note the extreme differences between the elementary schools serving secondary school 8 (actually two schools, for girls and boys).

1.20 Overall differences among the secondary schools were statistically significant on the total Coopersmith score and the General School and Autonomy subscales. We wish to point out the case of Ulric Huot School, a boys' secondary school, which consistently received highest scores on these three measures, and in which little difference existed between graduates from open-area and closed-area schools. This seems to be an instance of a secondary school asserting its own positive influence on its new students.

TABLE 1.4

Secondary School Average Results for the Quebec Sample on the Coopersmith Scholastic Self-Image Questionnaire

Secondary School	Type of Elementary School	Total Score	1 General School	3 Inschool	4 Autonomy
8 (girls)	open-area	73.7	22.4	21.4	12.0
	closed-area	60.1	19.4	16.3	8.0
8 (boys)	open-area	72.7	22.1	21.1	13.0
	closed-area	65.4	21.0	17.5	11.5
9	open-area	67.1	19.7	19.5	11.7
	closed-area	67.5	19.9	20.0	11.0
10	open-area	62.3	18.6	19.2	9.0
	closed-area	58.3	16.0	15.3	10.0
11	open-area	66.3	20.5	19.6	11.3
	closed-area	64.2	18.9	20.6	10.9

1.21 The Coopersmith Scholastic Self-Image Questionnaire showed that there were no significant differences in schools in Montreal related to open-area versus closed-area schools. In Quebec there were statistically significant differences favoring the open-area school over the closed-area school in almost every instance. There was one high average secondary school and one low average secondary school consistently providing statistically significant differences in the total score and subscales (1) general school and (4) autonomy.

1.22 The School Sentiment Index (see Appendix 9) is a measure of students' satisfaction with their school. There are seven subscales in the questionnaire, (1) mode of instruction (2) authority, (3) interpersonal student-teacher relationship, (4) learning, (5) working with peers, (6) social structure and climate, and (7) general attitude.

1.23 In the Montreal schools, all subscales with the exception of (5) working with peers and (6) social structure and climate contained statistically significant school differences. Table 1.5 (p.22) shows the overall means for the schools on the significant subscales of the questionnaire. There were no statistically significant differences between the two types of elementary schooling. It is interesting to note that the schools with the high and low means in subscale (1) mode of instruction, were both from the same region.

1.24 In Quebec there were statistically significant overall differences among the secondary schools in all areas except (5) working with peers, which was also not significant in Montreal. There were types of school differences related to the feeder open-area and closed-area schools on subscales (1) mode of instruction, (2) authority, and (3) interpersonal student-teacher relationships. Table 1.6 (p.23) indicates the schools where these statistically significant differences occur. Subscale (1) is consistently in favor of open-area elementary schools. Subscale (2) is consistently in favor of open-area elementary schools except for one closed-area school in subscale (3) all results tend to

TABLE 1.5

School Averages on the School Sentiment Index for Statistically Significant School Differences in the Montreal Secondary Schools

Subscales

School	1 Mode of Instruction	2 Authority	3 Student-Teacher	4 Learning	7 General Attitude
1	54.7	14.8	40.8	27.2	38.3
2	57.4	16.5	40.2	25.7	36.3
2	54.4	15.9	39.2	25.4	34.2
3	46.8	13.3	32.5	22.6	30.2
4	53.2	15.2	39.7	24.9	34.7
5	53.3	16.6	40.2	25.4	36.9
6	55.9	15.6	37.1	26.4	34.2
13	59.0	16.3	42.0	25.7	35.6

TABLE 1.6

Selected Average Scores on the School Sentiment Index for the Quebec Sample

Secondary School	Type of Elementary School Attended	Subscales 1 Mode of Instruction	 2 Authority	 3 Student-Teacher
8 (girls)	open-area	60.7	15.3	44.3
	closed-area	55.4	14.9	37.8
8 (boys)	open-area	56.0	16.6	38.7
	closed-area	47.3	14.1	33.0
9	open-area	55.3	17.1	40.6
	closed-area	53.1	15.2	36.4
10	open-area	52.8	15.4	38.7
	closed-area	49.1	15.7	39.8
11	open-area	59.2	17.2	44.4
	closed-area	56.4	15.1	41.2

favor the open-area school except at the same elementary school. Generally, the open-area schools are favored on the School Sentiment Index as reflected upon entry to the secondary level in the Quebec sample.

1.25 There were also significant overall differences among the means for the high schools in the Quebec sample on all the subscales except number 5. In all cases but two, the highest means were at Le Manoir. Couvent Courville, an all-girls school, was also noteworthy for many high scores.

1.26 The School Sentiment Index was given to measure students' attitudes toward their secondary school. The students were divided according to the type of elementary school they attended (open-area or closed-area). The Montreal and Quebec samples both had statistically significant school differences, but only the Quebec sample had statistically significant differences according to the type of school; this favored open-area elementary schools.

1.27 The Intellectual Achievement Responsibility Inventory (see Appendix 10) was given to determine the responsibilities that students accepted toward intellectual achievement. It would appear from the results of this survey that secondary schools could have their own effect on children arriving from either open-area or closed-area schools. One needs to rely less and less on the elementary school results related to adjustment from open-area versus closed-area schools, and perhaps rely more on the acceptance by secondary schools of elementary school students from whatever kind of school.

1.28 Quebec sample means were higher than Montreal's in all results of this survey. The type of feeder school (open-area or closed-area), however, produced no statistically significant differences in the Quebec sample but was statistically significant in Montreal.

1.29 Table 1.7 shows the relation of open-area and closed-area elementary schooling to secondary students' responses on this questionnaire in the Montreal sample. School 3 itself has such a high disparity between its open-area and closed-area feeder school students that it most likely accounts for the statistically significant difference. Otherwise, closed-area feeder schools were more often favored than open-area feeder schools, though by smaller amounts. Differences are smaller, overall, in the Quebec sample.

1.30 The Intellectual Achievement Responsibility Inventory produced statistically significant differences between the type of elementary school from which students came in Montreal, but indicated no such significant differences in Quebec. However, there were statistically significant overall secondary school differences, regardless of what kind of elementary school provided the students. Closed-area schools were favored more by the results of this inventory than open-area schools. That is, to some extent, students who had attended closed-area elementary schools reported higher intellectual achievement responsibility than students from open-area schools.

1.31 The Dependence Proneness Scale was given to measure students' personal independence (in contrast to intellectual independence) at the high school level, related to open-area versus closed-area feeder schools (see Appendix 11). Lower scores indicate independence. There were statistically significant differences in Montreal between scores for pupils from open-area and closed-area elementary schools, assessed at the secondary school level. These results are shown in Table 1.8.

1.32 One can note that the difference in means is large between the boys' and girls' schools numbered 2, (see Table 1.7) but only for graduates of open-area elementary schools. There could be sex differences or this could be the result of the program at the secondary school. The advantage seemed to be in favor of the boys. Open-area schools are not necessarily better for independence but clearly have the potential to

Table 1.7

Overall School Means on the Intellectual Achievement Responsibility Inventory in Secondary Schools

Averages for Students who Attended . . .

Secondary Schools	Open-Area Elementary Schools	Closed-Area Elementary Schools
	Montreal Sample	
1	24.5	26.6
2 (girls)	26.1	27.5
2 (boys)	22.5	25.2
3	21.3	27.2
4	23.5	23.7
5	26.3	27.6
6 (boys)	26.3	27.6
13	24.1	23.7
	Quebec Sample	
8 (girls)	29.8	29.4
8 (boys)	26.3	25.3
10	26.4	26.0
11	25.3	27.7

be so, as shown by graduates attending high schools 1 and 3.

1.33 In Quebec schools there were statistically significant differences among the overall means for the high schools. Most of the scores were higher (reflecting less independence) in the Montreal sample. In looking at the results on the Dependence Proneness Scale, they appear to be more a function of the present high school than of the previous elementary school. Boys again seem to be more independent as shown in the pair of schools segregated by sex. We noted that when separated by open-area versus closed-area elementary schooling, the girls were once again higher on the dependence proneness scale than the boys, though this difference was not statistically significant. Table 1.9 presents the results for the Quebec high schools in relation to their open-area or closed-area feeder elementary schools. One type of elementary school is not generally favored over the other on dependence proneness.

1.34 The Dependence Proneness Scale revealed statistically significant differences in the Montreal sample among secondary schools and between the types of feeder elementary schools. In Quebec, the statistical significance was among the secondary schools themselves, with an observation that the highest or most dependent average was at a girl's secondary school and the lowest or least dependent average was at a boy's secondary school. In Montreal much of the statistical significance seems to stem from the large difference between students from the two types of elementary schools sending their graduates to high school number 3.

1.35 It would appear from the two samples studied that dependence-independence cannot in general be attributed expressly to the type of feeder school the student comes from, but can also be attributed to the climate in the secondary school which the student then enters. There were many examples of school, teacher, and parent cooperation which could account for some of the exceptional results observed on this scale.

TABLE 1.8

Averages on the Dependence Proneness Scale in Montreal Secondary Schools

Secondary School	Type of Elementary School Previously Attended	
	Open-area	Closed-area
1	21.8	22.4
2 (girls)	26.8	25.9
2 (boys)	23.7	24.1
3	21.2	30.1
4	29.0	26.3
5	26.3	24.1
13	24.9	24.0

TABLE 1.9

Averages on the Dependence Proneness Scale in Quebec Secondary Schools

Secondary School	All Students	Type of Elementary School Previously Attended: Open-area	Type of Elementary School Previously Attended: Closed-area
8 (girls)	29.6	27.8	31.8
8 (boys)	24.4	25.4	23.3
9	27.4	28.1	26.7
10	25.5	26.7	24.3
11	28.0	26.9	29.1

SUMMARY

1.36 It would appear that there are some effects on elementary students having attended open-area elementary schools upon entry into secondary schools. It should be noted carefully that the type of elementary school (open-area or closed-area) was not entirely the determining characteristic, but sometimes the secondary school as a whole influenced the adaptation of its students. Exemplary schools were perceived in Montreal and Quebec which gave students an advantage upon entering secondary school. Elementary-secondary school liaison is almost obligatory for the most successful transfer of students to secondary school.

1.37 Outcomes at the secondary level sometimes favored open-area schools, but never exclusively over closed-area schools. Exemplary models for future study in both the Quebec and Montreal samples exist in both types of feeder elementary schools and in the receiving secondary schools.

1.38 Advantages for graduates from open-area elementary schools were observed on adjustment to high school as reported by the teachers (in Montreal), interpersonal values (also in Montreal), scholastic self-image (Quebec), sentiment in favor of school (Quebec), and in some cases, personal independence (Montreal). Graduates of closed-area schools received higher scores on the measure of intellectual achievement responsibility in Montreal. We emphasize again that there were repeated exceptions by individual classes, and secondary schools exerted a clear influence.

1.39 Nonetheless, taking all the results together, even though this statement is cautious and heavily qualified, the verdict seems to be no worse than neutral, indeed somewhat favorable for open-area elementary schools.

CHAPTER II

Objective 2

2.1 To report on possible ways in which the interests and aptitudes of pupils, in groups or as individuals, may affect their suitability for "open-area" and "open" schools.

2.2 Once again our results are both quantitative and qualitative. Five questionnaires were completed by students at the elementary levels in our sample, providing the quantitative part. The research team also made several observations based on their visits to the schools, read previous research, and examined publications from the Montreal Catholic School Commission and Ministry of Education of Quebec on open-area schools. First, the results of the questionnaires are presented.

2.3 School Sentiment Index. The 75 true-false questions of this form are arranged to provide seven subscales and a total score, all related to how much the child likes school or not, and why (see Appendix 9). The subscales were named in paragraph 1.22.

2.4 Two statistically significant differences were found in the Montreal sample between grades and architectural types. On Subscale 1 (Mode of instruction), students in grade 6 were more favorable (mean=9.2) than those in grade 4 (mean=7.2). On Subscale 3 (Student-teacher interpersonal relations) students in the open areas were more favorable (mean=7.8) than those in the closed areas (mean=7.2). The most consistent differences were among schools, and not related to their architectural plan. Perhaps the most important of these were on Subscale 3, interpersonal relationships and student behavior, since the social aspects of children's development theoretically has high priority in open-area schools. The average scores for schools and grades on this subscale are in Table 2.1.

2.5 The data in Table 2.1 are similar in many ways to those to be reported elsewhere in this study. Sometimes one school is uniformly favored by its pupils over its neighboring school. Sometimes it is

Table 2.1

Average Scores in Paired Open-Area and Closed-Area Elementary Schools on the School Sentiment Index

Subscale 3: Interpersonal Relations and Student Behavior

Montreal Sample

		Grade	
	Elementary School	Intermediate	Senior
(1)	21	8.4	8.2
	41	7.2	8.7
	22	7.2	7.9
	42	8.0	8.4
	23	8.7	7.4
	43	9.5	8.9
	24	7.4	9.4
	44	9.6	9.4
	25	8.1	7.2
	45	7.8	8.8

Quebec Sample

		Grade	
	Elementary School	Intermediate	Senior
	28	8.6	8.8
	48	10.2	10.1
	29		
	49	8.6	8.6
	30	8.4	8.4
	50	10.6	9.4
	31	10.5	9.9
	51	7.5	8.6

Note: 1. For each pair of schools shown, the school above the line is an open-area school, below, closed-area, and both send their graduates to the same secondary school. This tabular format applies to all following tables of this type.

an open-area school which is favored for example school 30, but at other times it is a closed area, as for school 43. Sometimes one grade in a particular school is noteworthy, e.g., grade 2 at school 23. And finally, some entire secondary school districts are found to be different from others, e.g., the area associated with secondary school 9 and elementary schools 29 and 49.

2.6 How does one account for such a mixture of results, especially when it is a common occurrence? We suggest the following. Individual schools are very good at developing positive sentiments to school, learning, teachers and peers.

2.7 The only other minor difference which we noted in our examination of the averages was on the peers subscale, for which we have not included a table. More positive sentiments toward other students seemed to arise in schools located in poorer neighborhoods. This is probably related to friendship patterns from outside the school, and is a necessary reminder to us that the school is only one source of education. Even outcomes which the school might desire to influence may be less under its control than under the control of others.

2.8 Across all the subscales of this questionnaire, the following schools appear to offer repeated positive results from which we can learn, St-Fabien (closed-area), Etincelle (open-area), and Jacques Cartier (closed-area).

2.9 Piers-Harris Self-Concept. This questionnaire of 80 "yes-no" items considers the student's opinion of himself, rather than of the school (see Appendix 12). Like the School Sentiment Index it also is arranged to give a total score and subscales. The subscales are (1) behavior, (2) intellectual and school status, (3) physical appearance and attributes, (4) anxiety, (5) popularity, and (6) happiness and satisfaction.

2.10 The results were somewhat simpler than for the School Sentiment Index. As then, most differences were not statistically significant, including those between open-area and closed-area schools, but on the total scores, children in the Quebec sample seemed to judge themselves more favorably than those in Montreal. On subscale 6, happiness and satisfaction, we also observed that almost all the scores were rather low, a discomforting fact.

2.11 Dependence-Proneness. Students were asked to mark "true" or "untrue" beside 45 questions (see Appendix 11). These questions are intended to measure the extent to which students develop personal responsibility. This has usually been one of the objectives of open pedagogy. Only a total score is obtained, no subscales.

2.12 The results were very mixed. Sometimes results were higher in open-area schools, sometimes in closed-area schools. When one examines the results for the pairs of open-area and closed-area schools within each secondary school district, sometimes one average was higher and sometimes the other. In the Montreal schools, higher average scores were found slightly more often in the closed-area schools. In the Quebec sample, open-area school scores were much higher. Also, the range of scores in the Quebec sample was slightly higher than in Montreal. The differences based on school architecture were statistically significant but, as mentioned, they were not always in the same direction.

2.13 Also significant were differences among grades. Generally, independence increased from grade 4 to 6. General maturation and increase in ability with age probably explain this result.

2.14 By referring to our detailed data, we observed four teachers whose classes received extremely high class average scores, between 29.9 and 30.6. Two of these taught intermediate grades at St. Fabien School, and 3 of the 4 were in closed-area schools. The lowest class average observed was 17.

2.15 Intellectual Achievement Responsibility. Whereas the Dependence-Proneness scale measured personal independence, this questionnaire assessed a very particular academic independence, that is, to what extent a student feels responsible for his intellectual achievement (see Appendix 10). This variable is usually referred to in the research literature as "locus of control". Students were asked to choose one of 2 optional explanations for 34 statements, providing a single total score.

2.16 It is again instructive to observe Table 2.2, showing averages for pairs of open-area and closed-area elementary schools having common secondary schools. This questionnaire was not used in the primary grades (1 and 2). Differences in the Montreal schools are largely irregular, and appear to be more related to classroom climate and individual teachers than to school architecture. The differences between types of architecture were statistically significant in the Quebec sample, but were not in a uniform direction.

2.17 Overall, there seems to be slight advantage in favor of the open-area schools, though larger differences exist among some classes. It is possible that this is one aspect of student behavior for which a suitable pedagogy has begun to be practised in the open-area schools. Whether this is intentional or not, we are not certain, but this pedagogy is certainly not necessarily dependent on the availability of the open areas. That the two highest means were achieved at closed-area schools is evidence of this. Individual teachers obtaining the most exceptional results, however, worked in open-areas.

2.18 Classroom Activity Scale for Educational Settings. The previous measures were questionnaires completed by the students. This was an observational rating form completed by two members of the research team during visits to each classroom (see Appendix 13). As can be seen from the titles of the categories of observation below, the scale concerns the kinds of behavior of the children. The categories of observations are (1) aggressive behavior, (2) negative (inappropriate) attention getting behavior, (3) manipulating and directing others, (4) resisting authority, (5) self-directed activity, (6) paying rapt attention, (7) sharing and helping, (8) social interaction, (9) seeking support, assistance and information, (10) following directions passively and submissively, (11) observing passively, and (12) responding to internal stimuli. Scoring is reversed on items 1 to 4 and 9 to 12, which are phrased negatively. This reversal permits the calculation of a total activity score.

2.19 Subscales 2, 5, 7, 8, 9, 11, 12 seem most relevant to this study. One should expect to observe, for example, more social interaction and less passivity when open pedagogy is in effect. The total score, however, is not as important as the individual questions.

2.20 In the Montreal sample, there were no significant differences on total scores observed. In most cases, higher (more favorable) total scores were found in higher grades. Results were mixed on the subscales, about half favoring open-area schools, and half favoring closed-area schools. Very little aggressive behavior was observed in the Montreal sample, though a few individual classes were exceptions. In the Quebec sample, increasing and statistically significant aggressiveness was observed in higher grades, but these differences were nonetheless small. Results were more uniform on the subscales within Quebec sample schools than in Montreal.

2.21 Negative attention-getting behavior was nearly always low, as well, once more with individual classroom exceptions. In the Quebec schools, once again, it increased slightly but was statistically significant in higher grades.

2.22 Manipulating and directing behavior was generally low. The only statistically significant differences were between schools in the Quebec sample. In three of the four pairs of elementary schools, the open-area schools were rated less favorably. This is not a point for concern; none of the ratings was below 2.0 out of 4.

2.23 The same pattern was observed for resisting authority. Most scores were favorable, no significant differences were observed in the Montreal

Table 2.2

Average Score in Paired Open-Area and Closed-Area Elementary Schools on Intellectual Achievement Responsibility

Montreal Sample

School	Intermediate	Senior
21	23.3	24.3
(1)		
41	20.8	26.0
22	25.7	24.0
42	23.2	25.8
23	24.5	23.7
43	27.6	26.3
24	24.2	27.0
44	24.5	26.6
25	25.5	25.1
45	26.2	24.1

Quebec Sample

School	Intermediate	Senior
28	24.9	24.6
48	28.2	26.9
29		
49	23.1	26.3
30	24.9	26.5
50	23.1	25.0
31	26.0	27.1
51	24.4	26.0

---

(1) Above line--open-area. Below line--closed-area.

sample, and older children in the Quebec sample demonstrated more negative behavior.

2.24 Significant differences were found on self-directed activity according to school architecture. In the Montreal sample, the open-area score was higher in two pairs of schools, but in two others there were no differences (observations were not permitted in one of the fifth pair of schools). In the Quebec sample, it was also divided with regard to the direction of differences.

2.25 Paying rapt attention was generally high in all Montreal classes, and irregular in the Quebec sample.

2.26 Sharing and helping, another very important variable, revealed few differences, except between schools. Most scores were medium or low. This seems to indicate that most helping is between the teacher and pupils in class, and not among the pupils themselves.

2.27 Most social interaction was rated low. Both in Montreal and Quebec, school differences were statistically significant but irregular. Only one open-area school, number 26 had a higher score than its paired closed-area school, but the highest rating was given to school 53, a closed-area school which was not a part of our regular sample.

2.28 Results on the seeking of support, assistance and information were extremely variable, though relatively little of this activity was observed in most classes. The opportunity to engage in this kind of activity with other children is probably very much affected by individual teacher's rules. These results corroborate those for sharing and helping.

2.29 Most results were favorable on the passive following of directions. The only significant differences were between schools in the Quebec sample: in one case an open-area school was more favorable, in another a closed-area school.

2.30 Almost all classes recorded a considerable amount of passive observing or daydreaming. In the Quebec sample, a few classes were notable for its absence, and also in Montreal where several schools received favorable ratings across all grades indicating a high level of student activity. No relation to architecture was observed.

2.31 The pattern for response to internal stimuli was familiar: mostly favorable scores were observed but with irregular school differences with regard to architecture in the Quebec sample.

SUMMARY

2.32 The five measures reported in this chapter essentially produced no statistically significant differences between students currently attending open-area or closed-area elementary schools, or differences balanced in favor of one architectural type or the other.

2.33 There was not an overall result in favor of or against open-area schools affecting the interests and aptitudes of pupils, in groups or as individuals. In relation to Objective 2, pupils as a whole seemed to view themselves in pretty much the same light. Sometimes the Quebec sample scored consistently higher than in Montreal, but not consistently toward one type of schooling or the other.

2.34 In effect, open-area schools do not in themselves distinguish among schools. There are some exceptions for a few schools where specific grades and perhaps classes may vary, too. It appears that schools under the leadership of certain types of principals are more important influences on the results. The effect is likely experienced through the principal's ability to influence the teachers.

2.35 The ability to take responsibility for one's own intellectual achievement can be a very important asset to a student's success in high school and in life. It is good to see some success in the encouragement of this characteristic in open-area schools, but we again caution the reader that there is no evidence that it is the open-area that causes this result. It is necessary to pay attention to the work of each teacher and the climate created by the school. It does appear, however, that teachers in the open-area schools have begun to respond to the importance of this question. If there is any doubt about the degree of independence of the elementary and secondary school experiences, we remind the reader that this was the one variable on which graduates of closed-area elementary schools excelled at the secondary level (see paragraphs 1.30 and 1.38). The need for liaison is stressed.

2.36 A large number of additional expectations have been held out for open-area schools, ranging from staff cooperation to individualized learning and enhanced socialization and personal development for the students (see Appendix 3). Only these last, socialization and independence receive moderate support from our results. There is no evidence, however, of any disadvantage anywhere for open areas.

2.37 The potential advantages of open architecture as reported by teachers did not appear to be much dependent on the existence of open areas. Advantages such as contacts with a variety of other children and teachers seem not to have been developed. It was observed in most, but not all, open areas that classes still tended to function in clusters around single teachers. The exceptions to this general rule bring forth another important point. Open pedagogy was being practised very effectively by many teachers in closed-areas.

2.38 Suitability for open pedagogy is perhaps not yet a valid question. So far, the social variables which seem to have been encouraged in open-area schools could have been, and have been, easily implemented in schools of traditional architecture. When open architecture makes an obvious difference in what a school does, then the suitability of individual students to one type of school or another might be capable of being assessed.

2.39 It is entirely possible that all the elements of the most desirable pedagogy can be implemented in any kind of school building. School boards, principals, and teachers make the decisions about who may go where and do what in a school. When we look at students' behavior, as we have done in this section, we should not necessarily assume that what we observed is necessarily or primarily the result of their interests and aptitudes.

2.40 Any attempt to eventually match schooling to aptitudes and interests would require that schools keep records of such information, but regrettably our searches of school files yielded very little useful information. We recognize the political and ethical problems of maintaining such data in records; however, open-pedagogy, if it is to be successfully implemented, requires good records even more so than traditional teaching. There is a greater need for the shared responsibility for the students and their needs in order to make individual decisions about learning and teaching.

2.41 School Boards, teachers, parents, administrators and the Ministry of Education should seek to work toward a compromise on this crucial point of records. It is grossly inefficient for new teachers to have to rediscover all the interests and aptitudes of their students each year.

CHAPTER III

Objective 3

3.1 To report on the pedagogical advantages of open-area schools in the context of the distinction between pedagogy and architecture in these schools.

3.2 There are two types of data to support the discussion of this objective. First, we directly measured the openness of pedagogy in all the classrooms and schools visited with four different instruments, and related these results to the architectural design. Second, we administered a separate questionnaire to teachers working in the open areas and will report on those results. Our general observations are also presented. As in all these first four chapters, we will restrain our presentation to important facts and limited discussion.

3.3 Flexible Use of Space Scale. This rating form was completed by the observers. It contains five items scored 1 (low), 2 or 3 (high), dealing with the physical organization of a teaching area (see Appendix 14). The five items are (1) diffusion of desks, (2) use of floor for work area, (3) decoration, (4) existence of display areas, and (5) partitions. Six scores were obtained, including a total (minimum 5, maximum 15). A high score indicates that the space is organized so as to facilitate open pedagogy.

3.4 On the overall score, there were no statistically significant differences between architectural types or grades in the Montreal sample, and most scores were low, generally between 6 and 10. In the Quebec sample, the scores were near or above 10 for all but one school, and there was a statistically significant difference in favor of the open-area schools. In the Quebec schools, open areas were organized in a manner conducive to open pedagogy, as were most closed areas except in one school. The supporting data are presented in Table 3.1.

3.5 This pattern was largely repeated for the first subscale, diffusion of desks, obviously a major factor in reorganizing classroom space for alternative pedagogy.

3.6 The second subscale, use of floor for work area, produced an expected similar result, plus a statistically significant grade effect. Younger children spent more time on the floor, again not a surprise. In the Quebec sample there was also a statistically significant grade-by-type interaction. This means that while the above generalizations held true overall, there were notable exceptions in specific pairs of schools. In these cases, higher grades sometimes made more use of floor space, or a paired closed-area school did not make noticeably less use of it than its twinned open-area school. It was never more than in an open area.

3.7 There were no significant differences, in either sample, on the next two closely related items, decorations and the existence of display areas. Ratings of the Quebec sample schools were mostly high, and in Montreal mostly low, in both cases with exceptions. (Such absolute comparisons between the samples on observation scales must be considered very tentatively due to possible different expectations of the raters. The comparisons best made between the samples should be the ways the variables are related in each case.)

3.8 The final item, partitions, yielded identical results in both samples, and served as a kind of minor validity check on the work of our raters. The results accurately reflect more partitions in closed-area schools, with the exception of one open-area school in Montreal, which had many. Strangely, that school was rated very low on decorations and the existence of displays, yet it could not offer the common excuse of a lack of wall space to mount displays.

Table 3.1

Average Total Scores on the Sketch Form

Elementary School[1]	Primary	Intermediate	Senior
Montreal Sample			
21	8.0	11.0	10.0
41	6.5	6.0	8.0
22	7.0	6.8	7.3
42	observations not possible		
23	8.0	12.0	8.0
53	8.0		
43	6.0	4.5	9.5
24	11.0	5.5	10.0
44	8.0	6.8	change of teacher
25	7.0	6.0	7.5
45	8.0	6.0	8.0
Quebec Sample			
28	8.5	12.0	12.0
48	8.3	9.3	13.0
29	14.3	15.0	12.7
49	7.3	6.3	7.5
30	-	12.3	10.7
50	10.0	10.8	10.0
31	11.6	9.8	10.8
51	--	7.5	10.8

Note 1: Above line--open-area. Below--closed-area.

3.9 If there were a clear relation between architecture and pedagogy, then statistically significant differences between the two types of schools should have been found on this variable. Such differences clearly in favor of open-area schools were found only in parts of the Quebec sample on the general arrangement of desks, and none on decoration, display, or partitions (beyond the obvious fact that closed-area schools have more walls). Open spaces can be used very traditionally, or closed spaces very openly, as, for example, at Jacques Cartier School. Commandeur Desjardins School, however, stood out most clearly as an excellent example of the use of physical space in an open area.

3.10 Walberg-Thomas Scale. The 50 questions of this form are usually completed by teachers. Each item is rated on a 4-point scale. In order to reduce the burden placed on teachers in this study, it was used as an observation record (see Appendix 15). A total score for openness of program was obtained, as well as seven subscales (there are normally 8, but numbers 7 and 8 were combined by us). The subscales are (1) provisioning for learning materials and equipment, (2) diagnosis (evaluation before teaching), (3) instruction, (4) evaluation (after teaching), (5) warmth and humaneness, (6) sense of community, use of environment, and (7) teacher's assumptions about learning, including (8) teacher's role.

3.11 Very similar results were obtained from the Montreal and Quebec parts of our sample. With the exceptions to be described below, there were no statistically differences between open-area and closed-area schools, nor across grades, but statistically significant differences were nearly universal among schools. Again, however, considerable variety is evident among the scores, especially when schools are examined in pairs within secondary school districts. These results are illustrated with the total scores of this test in Table 3.2.

Table 3.2

Average Total Scores on the Walberg Thomas Scale

	Elementary Grade			
Elementary School[1]	Primary	Intermediate	Senior	School Total
21	141.0	127.0	161.5	147.8
41	158.5	145.0	159.5	154.3
22	147.0	142.5	154.3	149.5
42	---	---	---	---
23	145.0	158.0	155.0	152.7
43	139.0	159.0	157.0	154.2
24	130.0	120.5	136.0	128.6
44	168.0	125.7	121.5	131.3
25	124.0	119.0	130.0	125.8
45	129.0	124.5	138.0	130.6
28	134.0	142.5	133.0	137.0
48	156.0	167.0	161.5	161.5
29	156.7	162.0	140.0	152.0
49	148.0	150.0	143.0	146.4
30	146.0	159.0	144.0	149.7
50	149.5	142.0	146. 0	146.0
31	153.0	159.0	163.3	160.2
51	---	139.0	143.3	141.6

Note 1: Above the line--open-area. Below line--closed-area.

3.12 These data reveal a wide variety of outcomes. In some regions, no differences are evident between pairs of schools, in some the differences are considerable and not always in the same direction. Also, considerable variety is evident among classes within some schools. Clearly the abilities of particular teachers and administrators are the important determiners in making pedagogical advantages a reality.

3.13 There were three exceptions to this general pattern. First, in the Quebec sample on subscale 4, evaluation, the differences among schools were not statistically significant. Our observer reported generally good attention to evaluation. Second, also outside Montreal, a statistically significant interaction was found on Subscale 7, assumptions about learning/teacher's role, resulting from one very high score in one closed-area primary class, and a very low score in another closed-area senior elementary grade. These are regarded as minor exceptions, and do not affect the total situation. Third, in the Montreal sample, statistically significant differences were observed between architectural types of schools on subscale 5, warmth and humaneness. Overall school differences were not statistically significant. Most, but not all, of the comparisons in pairs are in favor of closed-area schools.

3.14 These data suggest that insofar as it is measured by this scale, there is not any pedagogical advantage in the open-area schools of our sample. Whether or not there could be is a matter for discussion later.

3.15 Teacher Priorities Observation Record. This observation scale contains 74 items grouped into 8 subscales (1) teacher- or pupil-centred, (2) nature of the problem, (3) development of ideas, (4) use of subject matter, (5) evaluation, (6) differentiation, (7) motivation, control, and (8) interaction process analysis. Some of these titles are obscure, but examination of the specific questions (see Appendix 16) assists considerably in understanding them.

Table 3.3

Walberg-Thomas Average Scores on Subscale 5 in the Montreal Sample

	Elementary Grade		
Elementary School[1]	Primary	Intermediate	Senior
21	8.0	8.0	12.0
41	12.5	12.5	12.5
22	10.0	10.5	12.0
42	observations not possible		
23	1.5	12.5	12.0
43	8.0	12.5	14.0
24	12.0	8.5	11.5
44	15.0	12.7	9.5
25	11.0	10.0	12.5
45	12.5	10.5	11.5

Note 1: Above line--open-area. Below line--closed-area.

Table 3.4

Average Total Scores on the Teacher Priority Observation Record

Elementary School[1]	Elementary Grade			School Total
	Primary	Intermediate	Senior	
21	69.0	122.5	86.0	92.5
41	120.8	116.0	160.0	--
23	71.0	158.0	80.5	103.2
43	141.0	166.5	154.5	154.0
24	95.0	90.0	88.0	91. 0
44	--	78.5	75.5	77.5
25	86.0	69.0	113.0	88.3
45	92.5	129.0	43.0	88.2
28	107.7	135.5	142.0	129.1
48	140.3	127.0	153.8	147.7
29	138.3	115.7	145.7	133.5
49	124.7	96.7	102.8	107.5
30	--	107.0	111.4	109.4
50	125.5	138.0	122.5	127.3
31	138.0	125.8	120.0	128.1
51	--	114.0	129.9	125.1

Note 1: Above line--open-area. Below line--closed-area.

Note 2: Some data were not available.

3.16 The results were similar to those in other parts of this report. Comparisons between architectural types of schools, across grades, and among schools were almost all not statistically significant. Nonetheless, the smaller the unit one examined, the more differences one observed. Notice for example, the wide range of total scores in Table 3.4.

3.17 Table 3.4 is perfect for illustrating the importance of asking different questions about open education. Type of architecture, overall, did not matter at all. The averages, for example, in the Quebec sample for all open-area schools versus closed-area schools were 124.0 and 125.4, respectively. However, when schools are placed in specific pairs, as for schools 23 and 43, interesting differences between schools emerge. The differences become even greater if one examines grades, even within schools. We then went back to the original data for one grade whose average was 140.3, at school 48, among the highest. The three teachers were scored 156, 155, and 110. The total range of teachers' scores was even more exaggerated. The highest total results were obtained by one senior class teacher at St-Louis School (209), an open-area school, and by one teacher at each of the three grade levels examined at St-Fabien School (scores of 180, 184, and 204), a closed-area school, in the Montreal sample, and two teachers at Etincelle School (both 163) in the Quebec sample. The lowest scores were two at 43. This range is phenomenal, and totally hidden by looking at grouped data.

3.18 These data tell us two things. First, the teacher makes a tremendous difference. Second, the principal can too. It is not likely a coincidence that three of the very highest scores should be obtained in a single school, a closed-area school as well. There is little systematic open pedagogy in sight, and a possible excessive responsibility rests with teachers in this regard; this responsibility for implementing open pedagogy is not unwarranted, but it is unsupported. We observed open pedagogy in some teachers' classes, less often in entire schools, sometimes in regions, hardly at all in an entire segment of a school system (such as all open-area schools).

3.19 The statistically significant results on this scale do not disturb the overall result, and can be summarized briefly. Grade differences were statistically significant in the Quebec sample on subscale 1, teacher- or pupil-centred, and on subscale 5, evaluation, in the Montreal sample. Primary classes were more pupil-centred, and more evaluation was conducted in senior grades. These are common events. The interaction of grade and school architecture was statistically significant in the Montreal sample on subscale 3, development of ideas. Different schools excelled or scored low on this, but only within certain of their grades.

3.20 Dimensions of Schooling (DISC). There were two forms of this complex questionnaire, one completed by the teachers, and another by the principal (see Appendices 17 and 18). The latter version was also completed by assistant principals and a few teachers who were reported to know the overall situation in the school. Because of the way it is constructed, it could not be easily subjected to the same analysis as the other scores we report. What follows is a general description of relevant outcomes. The overall purpose of this questionnaire is to measure the openness of the school program, particularly in terms of planning, organization of teaching and learning, and student involvement. The teachers' form focuses on the class or group, the principals' on the school as a whole.

3.21 The results of the teachers' questionnaire were very limited, but in accord with some other parts of this report, they are slightly less favorable toward open-area schools than to closed-area schools. In the 11 situations where we were able to compare teachers at given grades in our pairs of open- and closed-area schools, we found that scores were higher in 9 cases in the closed-area settings. The 7 highest of our 58 valid teachers replies to this questionnaire were

Table 3.5

Total Scores for Principals and Assistants on the Dimensions of Schooling Questionnaire

Elementary School[1]	Scores of Individuals in Each School				
	Montreal Sample				
21	4.75	3.14			
41	2.28	3.58	5.18		
22	2.46	2.43	2.42		
42	2.93	2.68	4.79		
23	3.76	3.22	3.38		
43	3.71	2.44	0.48		
24	3.84				
44	2.17	2.44	3.88	3.71	
25	3.4[illegible]	2.57	1.69	2.47	2.81
45	4.66	4.35			
	Quebec Sample				
28	4.91	4.52	4.52		
48	4.22	3.03			
29	5.07	6.42	5.92		
49	3.18	4.64	4.66		
30	3.79	2.99	4.98	3.57	3.40
50	2.02	4.11	2.27	2.30	
31	4.09	5.71	3.25		
51	1.05	4.02	3.31		

Note 1: Above line--open-area. Below line--closed-area.

from closed-area schools, three of these were in one school. Tests of statistical significance were not conducted.

3.22 We would conclude from these data that, once again, open teaching is not dependent on the architecture. Some traditional architecture schools, probably through their leadership, as well as the efforts, skills, and interests of particular teachers, are the more likely facilitators of open pedagogy.

3.23 The principals' form provided results more supportive of a pedagogical relation between the provision of open spaces and open pedagogy, particularly in the Quebec part of the sample. As can be seen in Table 3.5, total scores in Quebec open-area schools are generally higher than in closed-area schools. This was not so in the Montreal schools, where, again, the best conclusion is that there is no relation. Consistant with other results in this study, it appears that a specific effort to apply open pedagogy in several of the Quebec open schools is having desirable results, in the overall school situation as perceived by school administrators. This is partly but not entirely supported in the section of this report which follows next, Questionnaire for Teachers in Open-Area Classrooms.

3.24 There is another anomoly in these data. Within some individual schools there is considerable disagreement in the total scores reported by the various administrative personnel. This may indicate a lack of discussion and agreement on educational policy and philosophy, even among the small number of senior staff in a school. We have noted already that these ratings differ generally from the teachers' ratings. Reasonably close agreement in perceptions such as measured by this instrument would appear to be very beneficial to a positive school climate.

3.25 Questionnaire for Teachers in Open-Area Classrooms. These 30 questions were answered by teachers in the open-area elementary schools of our two samples (see Appendix 19). Questions 8, 9, 13 to 18, 20, 21 28, 29, and 30 (listed below) were most relevant to this objective. Replies to the first 10 of these questions are given as percentages of those responding. Questions 28, 29, and 30 requested comments which are summarized and illustrated following.

3.26 Replies to question 8 are presented in Table 3.6.

Table 3.6

"Do you now teach differently than you did in the regular classroom?"

Answer Categories on English forms	Montreal	Quebec	Answer Categories on French Forms
Always	59.3%	54.7%	Yes
Usually	18.6%	13.2%	No
Sometimes	8.5%	22.7%	Never taught in Regular class (no reply)
Seldom	5.1%	9.4%	
Never	8.5%	---	

Over half of the English teachers also had never taught in regular classrooms. The claim that they teach differently (where there is no problem of interpreting answers on this question) conflicted with our observations and earlier results; perhaps what so many claimed to be doing differently was limited in magnitude and not necessarily in the direction of open pedagody

3.27 Replies to question 9 are presented in Table 3.7.

Table 3.7

"Are teachers in your area organized for team teaching?"

	Montreal	Quebec
Yes	46.0%	52.8%
No	53.0%	34.0%
No response	1.0%	13.2%

This confirmed our earlier notes to the effect that the Quebec sample of open-area schools have made slightly greater progress toward open pedagogy than those in Montreal, but neither had made great strides overall. In paragraph 3.38 below, teachers note this problem.

3.28 Replies to question 13 are presented in Table 3.8.

Table 3.8

"In your opinion, do most of your pupils enjoy working in an open area?"

	Montreal	Quebec
Yes	74.6%	67.9%
No	16.9%	26.4%
No response	8.5%	5.7%

In contrast with the elementary school results on the School Sentiment Index, the teachers are more positive than the students.

3.29 Replies to question 14 are presented in Table 3.9

Table 3.9

"What is the effect of the open area on discipline problems?"

	Montreal	Quebec
More problems	30.5%	50.9%
About the same	25.4%	9.4%
Fewer problems	44.1%	34.0%
No response	---	5.7%

Quebec sample children seem, surprisingly, more adversely affected by the open area or what happens there. It is a problem the schools involved might directly set out to solve.

3.30 Replies to question 15 are presented in Table 3.10

Table 3.10

"Do you think most parents like this kind of school?"

	Montreal	Quebec
Yes	49.2%	28.3%
No	30.5%	56.6%
No response	20.3%	15.1%

A clear difference exists here, and a clear deficiency needs to be overcome by Quebec-sample commissions and schools in involving parents in such broad policy matters as open education. The Montreal results are consistent with a 1975 Gallup poll in which about half of persons who claimed to know what the open education was also approved, but only 27% said they knew what it was! The job of informing parents is incomplete.

3.31 Replies to question 16 are presented in Table 3.11

Table 3.11

"In your opinion what is the effect of the open area on pupil learning?"

	Montreal	Quebec
More	10,2%	17.0%
About the same	72.9%	50.9%
Less	16.9%	28.3%
No response	---	3.8%

Overall, but especially in Montreal, teachers seem to be aware of the well-supported fact that academic learning is usually not much affected. It is not academic goals which distinguish open from traditional pedagogy; these are largely shared and equally attained.

3.32 Replies to question 17 are presented in Table 3.12.

Table 3.12

"In your opinion does open-area instruction provide for better pupil development than the self-contained classroom?"

	Montreal	Quebec
Yes	39.0%	60.4%
No	52.5%	26.4%
No response	8.5%	13.2%

Here is our report in miniature. There was some corroboration of this in the results regarding Objective 2: there was slight evidence that pupil non-academic development was slightly better served in the Quebec sample schools, open and closed-area. Could this measure of teacher confidence partly explain it? At the very least, we can say that the Quebec-sample teachers are more aware that this is a domain for which open pedagogy does at least claim advantage.

3.33 Replies to question 18 are presented in Table 3.13.

Table 3.13

"Do you consider the open area appropriate to the age of the pupils you teach?"

	Montreal	Quebec
Yes	64.4%	77.4%
No	30.5%	17.5%
No response	5.1%	5.7%

Agreement is general. Reasons for the disagreements are not apparent in the data, but might be pursued, especially in Montreal, in any workshops or other such sessions in the future.

3.34 Replies to question 20 are presented in Table 3.14.

Table 3.14

"How many roll-classes do you think should ideally be enrolled in an open area?"

	Montreal	Quebec
1	50.8%	77.4%
2	22.0%	9.4%
3	15.3%	7.4%
No response	11.9%	5.7%

These are puzzling data. First, because of the inherent contradictions: why should the majority of teachers conceive of the open area as most suitable to a single class of students? Also, why is this perception more prevalent in the Quebec sample, which had often shown signs in our data of having made more steps in the direction of open pedagogy? Perhaps teachers do indeed recognize the pedagogical potential for the open space, but see this potential as compromised by the realities of its use: large numbers of pupils, sharing teaching with others, and a considerable degree of exposure or lack of privacy thought by them to be essential to their confidence and effectiveness. The replies to questions 21 and 28 to 30, just below, will add to this specific discussion.

3.35 Replies to question 21 are presented in Table 3.15.

Table 3.15

"Do you think that an enclosed area is needed for certain classes or for certain lessons?"

	Montreal	Quebec
Yes	98.3%	100%
No	1.7%	---
No response	---	---

The classes which universally fit this description are music, second languages, and special education.

3.36 Question 28 asked teachers to "Please list what you believe to be 'plus values' (benefits, advantages, strengths, good features) of open areas". The variety of responses to these last three questions was limited and therefore we present all the replies, listed in their order of frequency, beginning with the statement made most frequently. We regard this relatively small variety of replies as a positive indication of their valid reflection of teachers' views. (Our comments are in parentheses).

(1) A sense of openness and free interaction between teachers (clearly a potential advantage, as we observed little such interaction),

(2) Team teaching,
    (a) better distribution of labor in sharing materials and preparing programs,

(b) sharing of ideas (again we must judge this question as receiving a theoretical reply; few teachers reported team teaching, nor did we observe it but rarely),

(3) chance to do better grouping,

(4) pupils get to know pupils from other classes, and to realize that classroom life is much the same there,

(5) better work facilities and space for large projects,

(6) pupils learn better social skills, sharing, interacting, respect of the rights of others,

(7) pupils learn self-responsibility, autonomy, honesty (see Objectives 1 and 2 for discussions of these),

(8) pupils are physically closer to you sitting in groups on the floor, and so get more out of a lesson (paragraph 3.6 above reports confirmation of the effective use of floor space in some schools),

(9) there is more individualization, to the advantage of pupils,

(10) pupils become more self-disciplined (paragraph 2.12 partially supports this), and

(11) it is possible to co-evaluate to discuss pupil progress and behavior with other teachers.

3.37 A reasonable conclusion from this point is that our sample of teachers all together can provide an excellent list of potential pedagogical advantages for open-area schools. Few of these, however, are widely realized. The need for inservice (see Objective 4) must be emphasized, as well as the importance of taking advantage of what teachers already know: they themselves can provide much of the necessary expertise, though not all of it.

3.38 Question 29 asked teacher to "Please list what you believe to be minus values (limitations, disadvantages, weaknesses, poor features) of open areas". They replied as follows, in decreasing order of frequency.

(1) Noise (by a wide margin),

(2) distractions
  (a) teacher has to control teaching style, limit noisy activities
  (b) if one teacher in an open area has poor control, it affects the atmosphere of the whole area,
  (c) it is difficult to control one's voice, being too loud or too quiet,
  (d) pupils cannot concentrate, are more nervous, harder to discipline,

(3) groups are too large (those responding to this item often suggest no more than 2 classes per area),

(4) it is hard to get 3 or 4 teachers to cooperate in a team; frustration sets in and poor teaching and learning situation results, especially since the teachers
  (a) did not choose to work together,
  (b) have little training in open areas, and
  (c) have few supervisory personnel who know about open areas,

(5) there is a lack of adequate ventilation with so many people in a room

(6) there is actually a shortage of space when up to 4 classes are in an area, even with flexible furniture,

(7) some children have difficulty adapting to changing teachers, and

(8) the necessary elaborate record-keeping is time consuming (mentioned only in one school where such record-keeping was being attempted and open education was defined as activity in workshops with children streamed according to ability),

(9) too tight a schedule, no flexibility (from the same school as above with closely scheduled workshops),

(10) pupils with learning disabilities really suffer, cannot concentrate,

(11) less intimacy between students (same school as in points 8 and 9), and

(12) in first grade children need the security of a small family grouping.

3.39 Relevant information was also obtained from the Background Questionnaire given to all teachers. They noted that there was a shortage of supervisory personnel who were knowledgeable about open-area education, at the levels of both principals and consultants. As well, there was a lack of visits to each others' classrooms by teachers themselves, a process which requires administrative facilitation.

3.40 Interviews with principals of open-area schools were enthusiastic about their schools, but rarely remarked on the needs of their teachers with regard to the implementation of programs. The only exception to this was team teaching, reinforcing the above points. The researchers would want to point out that open areas can certainly facilitate team teaching, but they are not essential. The potential advantages of open areas are not in single innovations, but in encouraging the implementation of a fairly wide range of alternative practices.

3.41 The teachers' observations are reasonable statements. One point which we would add, and it is the only point which has become clear in the literature, is that students high in general anxiety seem to benefit from more obviously structured programs than do less anxious students. Open pedagogy calls for considerable structure, but anxious students may still not be best suited to this type of learning situation if the structures are not made explicit.

3.42 Question 30 asked teachers to "Please record any suggestions you may have for the improvement of open areas". Here are their replies.

(1) Need more closed areas, at least one per level, and even that is not enough for some (this is a very sound suggestion, pedagogically),

(2) limit class size to 18 to 25 (the problems in such a recommendation are known to all, but the open area does provide the opportunity for smaller groups of children--as long as it is not expected that each such group would have its own teacher; the

need to develop independent learning habits can become definite asset),

(3) limit the number of classes in an area, most suggest that 2 is enough (decreasing enrolments may make this possible),

(4) provide more teacher aids, someone to do clerical tasks for the area or an extra teacher to work individually with children,

(5) offer better teacher training on how to teach in an open area, on team-teaching workshops, grouping record keeping,

(6) provide more time for preparation and planning (this is an item that the school administration could satisfy by facilitating the flexibility of grouping),

(7) more carefully select school personnel, with some choice of teaching partners and using only teachers who want to work in the open areas,

(8) make better use of space to create dynamic, flexible, exciting environments, e.g.,
   (a) provide mobile building cubes for storage
   (b) provide mobile walls or dividers,
   (c) organize private places for relaxing, counselling, and individual work for teachers and pupils,
   (d) use brighter colors, wall hangings, and
   (3) organize learning centres, game areas,

(9) offer better resource support, specifically including
   (a) there is a definite need for supervisory personnel who know about open areas,
   (b) offer workshops with structure and activity, not just talk,
   (c) have available books and worksheets that can be given to the pupils,
   (d) have books and journals on open-area teaching, and

(10) increase accessibility to library and gymnasium.

SUMMARY

3.43 As this has been a fairly long complex chapter, we thought it would be useful to provide a short summary.

3.44 The pedagogical advantages of open-area schools as represented by our sample are much more potential than actual. No strong and recurring relations were discovered between openness of architecture and openness of pedagogy as observed directly. Differences were found, sometimes extreme, but were related usually to individual teachers, and occasionally principals.

3.45 Our data made three points very clear. First, there is rarely any correlation and almost certainly no causal effect between school architecture and the pedagogy practised therein. Second, open pedagogy depends on the teacher, but it should not be forgotten that teachers are dependent, at least in part, on their training, the leadership in their schools, and other variables. Third, teachers do not perceive notable advantages to open-area schools, and appear not sufficiently aware of the objectives of open pedagogy as well. They do, however, appear to have a general realization that open education should be different from traditional, and teachers in the open areas are not necessarily unaware of the potential advantages of their situations, but our observations and test results indicate only scattered implementations of these advantages. On the other hand, neither did we observe any notable disadvantage.

CHAPTER IV

Objective 4

4.1 To report areas in which teachers and administrators in open-area elementary schools could benefit from in-service education.

4.2 The research team approached this objective with four instruments,

(1) Questionnaire for Teachers in Open Areas
(2) Teacher Priorities Observation Record
(3) Personality Profile, and
(4) Background Questionnaire.

Members of the team also supplied observations on the basis of their presence in schools.

4.3 Each of the instruments was different in nature and not related only to in-service education. However, the responses are supportive of a need for more in-service and preservice education for the teaching staff. Although consideration preservice education was not in the objective, it certainly needs to be considered in staffing open-area elementary schools as well as the receiving secondary school Cycle I teachers.

4.4 In the Questionnaire for Teachers in Open Areas (see Appendix 17), the specific questions related to Objective 4 will be discussed. Teachers were asked in both Montreal and Quebec whether they would choose this assignment for another year. The responses are shown in Table 4.1.

Table 4.1

"Would you choose this assignment next year?"

	Montreal	Quebec
Yes	64.4%	58.5%
No	32.2%	32.1%
No response	3.4%	9.4%

Certainly the majority are sufficiently satisfied to elect this type of open-area school for another school year.

4.5 Now compare that with the results in Table 4.2 below,

Table 4.2

"Did you ask for this assignment?"

	Montreal	Quebec
Yes	42.4%	43.4%
No	57.6%	54.7%
No response	---	1.9%

This table indicates that selection for these schools is not based predominantly on choice but more on need for staff to cover the schools in question.

4.6 When asked if they enjoyed this type of teaching in open-area schools, the teachers gave a most positive response, as shown in Table 4.3 below.

Table 4.3

"Do you enjoy this type of teaching?"

	Montreal	Quebec
Yes	86.4%	69.8%
No	13.6%	20.4%
No response	---	9.4%

It appears that a satisfied staff is evolving in the open-area elementary schools in the school samples in Montreal and Quebec, and boards might seek to assure staff continuity in such settings. Satisfaction appears to be higher in the Montreal sample.

4.7 When asked if the teachers were organized for team teaching, the teachers responded as shown in Table 4.4, the first glimpse into in-service education at the school level from this questionnaire. It appears that it is not a demand but rather a symptom of things to come in further questions.

Table 4.4

"Were you organized for team teaching?"

	Montreal	Quebec
Yes	46.0%	52.8%
No	53.0%	34.0%
No response	1.0%	13.2%

Montreal schools seemed to be more unsure of the organization for team teaching than did Quebec. There are almost reversed patterns, in the eyes of the teachers.

4.8 When teachers were asked their opinion of parents' acceptance of open-area education, there is a greatly dissimilar pattern to what teachers had stated they felt themselves in Table 4.3. Replies concerning parents are presented in Table 4.5.

Table 4.5

"Do parents accept open-area education?"

	Montreal	Quebec
Yes	49.2%	28.3%
No	30.5%	56.6%
No response	20.3%	15.1%

Even if it is assumed that half of the non-responses were divided equally between yes and no, the satisfaction of the teachers still exceeds the satisfaction of parents as perceived by the teachers. Perhaps the parents should have been asked this question as well on a random basis.

4.9 As for equipment to carry on the program in open-area schools, the administration is to be commended. In both Montreal and Quebec samples, the teachers were more than satisfied, as shown in Table 4.6.

Table 4.6

"Is there sufficient equipment for the program?"
(compared to regular classroom)

	Montreal	Quebec
More than enough	66.1%	62.3%
Enough	18.6%	17.0%
Less than enough	5.1%	7.5%
Not applicable	6.8%	13.2%
No response	3.4%	---

If one takes the first two categories, it is apparent from those teachers responding that there is no dearth of equipment in the open-area schools of Montreal and Quebec.

4.10 When teachers responded to the question on more time for preparation of lessons in open-area school, the responses were not as divergent as one would have anticipated. The "No's" are slightly more than one-third of the responses in both Montreal and Quebec. This is shown in Table 4.7

Table 4.7

"Do you have enough preparation time for this type of education?"

	Montreal	Quebec
Yes	62.7%	52.8%
No	37.3%	37.7%
No response	---	9.4%

4.11 The preparation time could be related to the preservice work that each teacher indicates is lacking as shown in Table 4.8. There seems to have been little specific preparation of teachers for the open-area schools in our Montreal and Quebec samples.

Table 4.8

"Were you prepared for this type of open-area teaching?"

	Montreal	Quebec
Yes	28.8%	28.3%
No	69.5%	62.3%
No response	1.7%	9.4%

This would tend to indicate that the teachers in the open-area schools do not view their preservice preparation as adequate to enter such a new dimension of teaching.

4.12 As for in-service to counteract this preparation dilemma, what are teachers' perceptions in the open-area school? As can be seen in Table 4.9, in-service is neglected more in Montreal than in Quebec, according to the responses of the teachers in the samples.

Table 4.9

"Is there sufficient in-service training?"

	Montreal	Quebec
Yes	28.8%	39.6%
No	64.4%	54.7%
No response	6.8%	5.7%

4.13 From this Questionnaire to Teachers in Open Areas it appears that teachers are not usually trained for open-area education and are selected on the basis of availability rather than expertise or interest, though satisfaction does develop on the job. The need for preservice training is evident in these two samples as well as in-service training to facilitate the operational atmosphere for open-area education. Further, it would appear that teachers perceptions of parents' views could indicate a greater need for sensitizing the public served to the open-area concept in an ever-increasing, continuous manner.

4.14 Little direct information relevant to Objective 4 was found in the Teacher Priorities Observation Record (see Appendix 16). We can note again the irregularity of results, and point out that the cases of open-area schools receiving low ratings in this measure of openness of pedagogy must remind us once again of the needs for preservice and in-service training, parent involvement, and the development of school leadership. The highly rated schools, both open-area and closed-area, should provide one incentive to this goal.

4.15 In the Personality Profile (see Appendix 6), teachers were asked to rate students on a scale of 1 to 5. Certain responses to questions could apply to Objective 4. From the histograms, the research team noted that there were no overall differences between open-area and closed-area schools in Montreal and Quebec. However, in talking to staff at the schools observed, it was shown that a teacher bias could exist. For example, teachers stated that they could identify open-area students easily, when in reality this was not substantiated. For these secondary school teachers observed, it would appear there is in reality some need for in-service for the receiving Cycle 1 teachers of open-area school graduates.

4.16 The Background Questionnaire for all teachers, both in open-area and closed-area schools, had some results applicable to Objective 4 (see Appendix 20). This questionnaire tends to support the results of the Questionnaire to Teachers in Open Area but, allied with closed-area education, it indicates needs for better in-service education in all schools of the sample.

4.17 When asked if the teachers requested to teach in present schools, there were statistically significant differences in Quebec schools. As seen in Table 4.10, there is a definite crisscross pattern in the Quebec sample.

Table 4.10

"Did you ask to teach in your school?"
Quebec Sample

	Open-Area	Closed-Area
Yes	25.9%	56.5%
No	74.1%	43.5%

In open-area education, the "No's" are in the clear majority. It again appears supported that the teachers are placed in open-area schools, and not given the chance to request such postings, related to their competence and interests. There may also be some reluctance to seek positions in these schools.

4.18 In response to whether or not there was an orientation program prior to starting the teaching assignment, the overwhelming response was No. It appears that other constraints could be at play here to cause this dysfunction in the administration of teaching for both open-area and closed-area schools. For comparison, the Montreal responses are shown in Table 4.11.

Table 4.11

"Did you undergo an orientation program prior to starting your present assignment?"
Montreal Sample

	Open-Area	Closed-Area
Yes	31%	33.3%
No	69%	66.7%

4.19 There were no statistically significant differences in the responses to the question on in-service programs in Montreal schools, but there were some in the Quebec schools. Table 4.12 presents the Quebec results.

Table 4.12

"Is there an on-going in-service program?"
Quebec Sample

	Open-Area	Closed-Area
Yes	4%	39%
No	96%	61%

The responses in the Quebec sample indicates a lack of on-going in-service education programs. This compares with the responses received from the teachers on the Questionnaire for Teachers in Open Areas.

SUMMARY

4.20 The results of the instruments used in discussing Objective 4 on in-service training seem to support the need for more and more varied preservice as well as in-service education. The preservice is related to the entry behavior that teachers should have before beginning this type of teaching, while the in-service is related to the on-going needs within the schools after appointment to the school.

4.21 The kind of in-service is more the problem than in-service *per se*. The need for organization, team teaching, classroom visitation, and supervision of open-area education were supported in the samples' responses to the instruments presented. Perhaps, the school leadership at all levels needs to be more perceptive of and receptive to teachers' needs in order to best implement open-area education on an acceptable basis for the future.

4.22 The parent perceptions in the eyes of the teachers cannot be ignored. If continued use of open-area schools are to be maintained then, more public relations on the rationale for parents to accept this type of education for their children is necessary for the continued acceptance of the program.

4.23 Further development of open-area education requires that we ask such questions as what human resources do we have available to interpret and implement it? What kinds of in-service training must be an ongoing part of the program in order to make the open-area education work in our schools? How do we continuously sensitize parents to the changing priorities of the school board planning the broad pattern of their children's education? Within the samples there were demands for help in understanding the concept of open-area education. The challenge is with the schools and the administrators involved in these programs. Recognition of short-comings is not enough for the survival of open-area education. It is imperative that schools and commissions acknowledge the shortcomings and then act accordingly to accommodate the situation with visits, in-service, continuity of committed staffing, liaison committees, and parent involvement in the process of information sharing about the education of their children.

CHAPTER V

Review

5.01 In this short chapter we summarize in point form several of the observations made during this study. This chapter was created simply by extracting from the previous text with some editing. The only new information here is that some schools about which we had very positive remarks to offer on specific points are now named instead of numbered.

5.02 The points are grouped as they apply to students, teachers, school boards and parents, and appear in approximately the same order as their appearance in the previous chapters.

5.03 Students

(1) Students who attended open-area schools are more likely to receive higher scores on measures of interpersonal values on entry to high school than students from closed-area elementary schools.

(2) Students' self-concept seems to be more enhanced among those who attended open-area schools.

(3) There was considerable variation in students' ratings of their schools.

(4) Secondary schools receive students from open-area and closed-area elementary schools, but some have better adjusted to the needs of students from the two types of elementary schools.

(5) The Montreal secondary school students had a wider range of opinions of their schools than the Quebec students.

(6) Quebec students from open-area schools scored higher on most of our measures on entry to secondary school than those from closed-area schools; in Montreal the results were more mixed, with differences in favor of both groups.

(7) There is something in the secondary school's own atmosphere that enhances the students' self-image and his feelings toward his school.

(8) Secondary schools have some effect on student outcomes after entry, which is not related to feeder schools being open-area or closed-area.

(9) Student independence was more favorably shown in closed-area elementary schools than in Quebec open-area schools.

(10) Girls were found to be more dependent than boys in secondary schools.

(11) Most students' personality-characteristics were not affected by the type of school from which the student came,in the view of their secondary teachers.

(12) Dependence-proneness seemed to diminish as the student moved into later grades in the elementary school.

(13) Quebec students were more dependence-prone in the elementary schools than in Montreal.

(14) The Quebec open-area school students showed more positive sentiments toward their schools than students from closed-area schools.

(15) Student independence is perhaps related to open-area or closed-area elementary schools, but rather seems connected to the climate of the secondary school to which the student is promoted.

(16) Students paying rapt attention was generally common in Montreal classes and irregular in the Quebec classes (this is an indication of teacher-centred activity and activities involving the whole class).

5.04 Teachers

(1) Teachers could not identify children from open-area versus closed-area schools in the secondary schools (based on informal conversation).

(2) Teachers do not perceive notable advantages to open-area schools (but later can list many potential advantages).

(3) Teachers do not appear sufficiently aware of the objectives of open pedagogy.

(4) Teachers do not perceive open-area education as fundamentally different from traditional education.

(5) The teacher makes a tremendous difference in the adoption of open pedagogy.

(6) Primary classes were more pupil-centered,and more formal evaluation was conducted in the senior grades.

(7) Teachers are more positive on the School Sentiment about student feelings regarding their schools than students themselves.

(8) Quebec teachers are more aware that open-areas have potential advantages for open pedagogy than self-contained classrooms.

(9) Teachers as a whole did not ask for the assignment to teach in open-area schools.

(10) Teachers enjoy teaching in open-areas. An attempt to assure continuity of such staff would be to the advantage of the educational process.

(11) Montreal teachers rate more highly than Quebec teachers their satisfaction with open-area education.

(12) Organization for team teaching is a problem in both Montreal and Quebec schools.

(13) Teachers generally have enough preparation time for open-area education, but this time is not always optimally organized.

(14) Teachers were not prepared for open-area teaching.

(15) In-service training is not sufficient in the open-area schools.

(16) Teachers recognize the pedagogical potential for open spaces, but lack the privacy thought to be essential to their confidence and effectiveness.

(17) There is a sense of openness and free interaction between teachers in open-area schools, but little observed in practice.

(18) Teachers can provide an excellent list of potential pedagogical advantages for open-area schools.

(19) While teachers in open-areas are aware of potential advantages of open-areas, indications are that its implementation is only scattered.

(20) Successful implementation of open pedagogy depends to a great extent on the abilities of the teacher.

(21) Teachers in closed-area schools are also in need of on-going in-service training related to their work.

(22) Teachers did not choose their work partners in both open-area and closed-area schools and expressed this as a problem.

5.05 Principals

(1) It seems that different traditions of the decentralization of authority within the schools from the principal to teachers may result in the differences between Quebec schools and Montreal schools. Individual schools in Montreal appeared to have much more autonomy, requiring more participative formulae for the implementation of any board policy regarding alternative educational patterns.

(2) The abilities of particular teachers and administrators are important determiners in making pedagogical advantages a reality.

(3) There is no dearth of equipment in the open-area schools of Montreal or Quebec to carry on the programs.

(4) The teacher depends on the training and the leadership in the schools for much initiative in making effective use of open areas.

(5) There is a lack of visitation amongst teachers within schools in open-area classrooms.

(6) Principals were enthusiastic but not necessarily aware of the needs of the staff for the implementation of open pedagogy.

(7) There is a need for more explicit organization for team teaching.

(8) There is a need for classroom visitation in schools and in different schools.

(9) Principals in the Quebec open-area schools perceived a high degree of pedagogical openness in their schools.

(10) Within any particular school there was not always agreement on the degree of pedagogical openness perceived in their school.

5.06 School Boards

(1) Closer scrutiny should be made of exemplary model schools found in this study.

(2) A model or models should be used as guides for future development as seen in schools such as St-Fabien, Jacques Cartier, Guillaume Couture and Etincelles.

(3) Effective liaison is required between secondary and elementary schools, especially to accommodate graduates from those with non-traditional programs.

(4) There is more involved in this whole question than just the open-area versus the closed-area concept.

(5) There is an effect of the secondary school on the manner in which feeder students are accepted into the secondary school.

(6) Secondary schools which seem to have particularly well accommodated open-area graduates in Montreal were Cardinal Newman, Sir Wilfrid Laurier, Marie Reine, and Charles LeMoyne.

(7) Secondary students from both open-area and closed-area schools were consistently highest in the appreciation of their own scholastic image at Ulric Huot in the Quebec sample.

(8) Open-area elementary schools in Montreal, more than closed-area schools, seemed to be associated with high scores on the Intellectual Achievement Responsibility Inventory, but the relation reversed at the secondary level.

(9) St-Joseph and Guillaume Couture schools are examples of the potential for open-area schools to foster independence in their students.

(10) Some schools are very good at developing positive sentiments to school, learning, teachers and peers.

(11) Some outcomes which the school might desire to influence may be less under its control than under the control of others.

(12) No relation to differences in school architecture was observed in most of the measures employed at the elementary level.

(13) Open-area schools in Quebec were organized in a manner conducive to open pedagogy.

(14) There was no clear relation between architecture and pedagogy in the two types of elementary schools in this study.

(15) Commandeur Desjardins School was exemplary in the use of physical space in an open-area school.

(16) Three of the highest scores on one of the measures of open pedagogy were obtained by the same closed-area school, St-Fabien. On single measures, Ludger Duvernay and Jacque Cartier Schools were also exemplary.

(17) There is a need for sensitivity to the concepts of open-area schooling and open pedagogy by both administrators and teachers.

(18) There is a need for in-service for teachers receiving Cycle 1 secondary students from open-area schools.

(19) There is no causal effect between school architecture and the pedagogy practised therein.

(20) There is a shortage of supervisory personnel who are knowledgeable about open-area education.

(21) The kind of in-service offered to the teachers is more important than simply providing in-service.

5.07 Parents

(1) In the opinion of the teachers, parents are not satisfied with open-area schools. More direct contact is needed with parents.

(2) There is a great need for sensitizing parents to the open-area or any non-traditional program in a continuous manner.

CHAPTER VI

Epilogue

6.1 There are never simple answers to complex questions. We can make a few statements in general conclusion to our study, however, and we offer these to our sponsors with the hope that they will be encouraging about both the past and the future.

6.2 First and foremost, open-area schools are an architectural innovation, not a pedagogical innovation. They fall into the same category as movable furniture and central heating. They certainly do permit and even facilitate pedagogical innovations, but they neither require it, nor guarantee it. The question of pedagogical development must be addressed separately.

6.3 With this in mind, it is not a surprise that we observed open-area and closed-area schools in which open pedagogy was practised. The experiments with open areas are, nevertheless, not a failure. Teachers largely enjoy working there, as do many students. There was no evidence anywhere in our study of their being detrimental. Indeed, they do appear to have required certain positive adaptations in social behavior from the students.

6.4 Unfortunately, these advantages did not always carry forward to the secondary schools. It may well be that the immediate demands of the students' new environment are a much more powerful influence on their attitudes and behavior than some features of their previous school environment. This last point has two important implications.

6.5 First, any successful carry-over from non-traditional elementary to secondary schooling requires well-developed liaison and leadership. The secondary school has to be involved in innovations at the elementary level in order to be able to respond well to it. In some cases we found this, but in most cases we did not.

6.6 Second, it was our impression that the absence of a more pronounced impact of open-area schooling was the result of limited and partial implementation of concepts of open pedagogy in these settings. The list of advantages foreseen by the teachers is admirable, but open areas cannot realize their potential if each school only implements one or two of these features. Those schools which attempted a broad level of innovation much more clearly demonstrated the advantages. So, it is also a matter of degree of implementation. We must also emphasize that.

6.7 We would caution our readers not to expect miracles. On the other hand, with such steps as effective matching and preparation of teachers to work in open areas, parent involvement, the development of school leadership, and commitment to more than piecemeal pedagogical experimentation, our open-area schools can be even more exciting places for students and teachers. This is not to say that they should be better than other schools, only usefully different. That both open-area and closed-area schools can enjoy similar successes is an indication of their viability as alternatives. Choices in favor of one or the other, however, should more likely be based on other criteria than academic, attitudinal, or behavioral outcomes in the students. These other criteria include preferences regarding the process of learning and teaching.

REFERENCES

AND

SUGGESTED READING

Bennett, Neville. *Teaching styles and pupil progress*. London: Open Books Publishing, Ltd. (Harvard University Press in U.S.A.), 1976.

A report on research conducted in England, which suggested greater student progress in basic skills is found in more traditional than in informal open classrooms. It has become the focus for an important debate in education.

Featherstone, J., & Bissell, J.S. Review of Bennett's (1976) book focussing on the debate surrounding open education and on comparisons to similar research done in the USA. *Harvard Educational Review*, (May) 1977, *47* (2), 214-222.

Rogers, V., & Baron, J. Teaching styles and pupil progress. *Phi Delta Kappan*, April 1977, 622-623.

A good, short critique of Neville Bennett's (1976) books, which also highlights the problems inherent in this kind of research into educational practice.

Stephens, Lillian. *A teacher's guide to open education*.

A well written, practical guide for teachers and others interested in the organization of an open classroom. Theoretically sound.

Tallboy, F., and Shore, B.M. Open education: Review of the literature and annotated bibliography - McGill University: *Reports in Education*, Whole No. 4, 1974.

A fairly complete review of literature available on the open-space classroom, team teaching and open education until 1974.

Traub, R.E., Weiss, J., Fisher, C.W., and Musella, D. Closure on openness: Describing and quantifying open-education. *Interchange*, 1972, *3* (2/3), 69-84.

A good article describing the historical development of open education and the development and testing in Canada of the DISC (Dimensions of Schooling) questionnaire for determining the openness of a school's programme.

Walberg, H.T., and Thomas, S.C. *Characteristics of open education: a look at the literature for teachers*. Newton, Mass.: TDR Associates, Inc., for the Educational Development Center, May 1971.

An abridged version of a final report of research carried out in the spring of 1971, this review analyzes literature related to and specifically open education, from the point of view of eight major themes. Well written and informative.

Weber, L. *The English infant school and informal education*. New Jersey: Prentice-Hall Inc. 1971.

Lilian Weber's account of her year of study and observation of English primary schools. She includes the theoretical background of informal schooling as well as suggestions for the North American scene. The bibliography is well chosen. An interesting book for the teacher as well as the more specialized reader.

Yeomans, E. *Preparing teachers for the integrated day*. Boston: National Association of Independent Schools, 1972.

Ed Yeomans describes various ways of supporting and helping teachers to become more "open". Teachers' own accounts of workshops are included. A very valuable account for teachers and people interested in helping teachers prepare themselves for open teaching.

Schools talk to parents about the integrated day. Boston: NAIS, 1971.

Schools which change to open pedagogy need to educate and include parents in their plans, as well as children, teachers and administrators. This account tells the way five different schools did this. Very important for anyone involved in the practical aspects of open teaching.

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6. Personality Profile
7. Survey of Interpersonal Values
8. Coopersmith Scolastic Self-Image
9. School Sentiment Index
10. Intellectual Achievement Responsibility Scale
11. Dependence Proneness Scale
12. Piers-Harris Self-Concept
13. Classroom Activity Scale for Education Settings
14. Sketch (Flexible Use of Space Scale)
15. Walberg-Thomas Scale
16. Teacher Priorities Observation Record
17. Dimensions of Schooling (Teachers)
18. Dimensions for Teachers in Open-Area Classrooms
19. Background Questionnaire

Note 1: See paragraph 0.18 of the text of this report for an explanation of the omission of these appendices and where they can be seen.

APPENDIX 1

CONTRACT

Research Contract

between

The Montreal Catholic School Commission

and

McGill University

for the

Investigation of Outcomes of a Large-Scale
Experiment in the Provision of Open-Area
Elementary Schools

Background

For several years the Montreal Catholic School Commission has experimented with open-area elementary schools. On October 1st, 1975 an interim report on these experiments was presented to the Director-General by the Director of Student Services, M. Viateur Ravary. This report was organized around eleven Board Resolutions of December 13th 1973, and was based primarily on the results of surveys.

Because of the constraints of time and internal resources several fundamental questions remain unanswered. These include (a) the adaptation of students from open-area elementary schools to secondary schools, (b) support required for the staff of open-area schools, and (c) the determination of interests and aptitudes among students for this kind of school, on a group or individual basis.

There is another unanswered question of similar importance, arising from the experience of the McGill partners to this contract. The above questions were phrased in terms of a kind of school, essentially an architectural plan. There are implicit assumptions that the kinds of teaching and learning that do or should occur in an open-area school are differ-ent from those experienced in a structurally traditional school. Previous research has not found this to be the case. The remaining question is therefore, what are the unique educational gains to be made from the provision of open-area elementary schools? Do they facilitate "open" or "child-centred" education? It is therefore suggested that some probing of possible relations between school architecture on pedagogical opportunities should be a part of this study.

Objectives

(1) To report on the effects on students upon entry to secondary school of their having attended open-area elementary schools versus more traditionall constructed schools.

(2) To report on possible ways in which the interests and aptitudes of pupils, in groups or as individuals, may affect their suitability for "open-area" and "open" schools.

(3) To report on the pedagogical advantages of open-area schools in the context of the distinction between pedagogy and architecture in these schools.

(4) To report areas in which teachers and administrators in open-area elementary schools would benefit from in-service education.

Scope of Work

The work will be done in three steps, with interim reports due during June and December, 1976, and a final report due in June 1977.

For the report of June 1976, the researchers will identify the sample upon which they will base their formal study, as well as develop and select their instruments and questionnaires where these will be used. A major influence on the whole project will be the extent to which we can gain the confidence of the teachers in the schools in which we hope to work. This will be given priority over all other initial activities. Our first interim report will therefore begin to approach the objectives from the points of view of school personnel, and perhaps some preliminary analysis by the research team. It will name the schools and other groups on which we would concentrate the remaining research activities.

The report of December 1976 will be primarily a technical document. The preparation and validation of French materials where these are not yet available will be a major undertaking. It will describe in detail the data-gathering procedures we will have instituted and the analyses to which the data will be subjected. These will be anticipated to some extent in the last part of the June 1976 report. They cannot be specified in advance because school personnel might wish to express some preferences and we require these first few months to gain first-hand experience in the schools concerned.

The final report will present data on all four objectives as well as recommendations, wherever appropriate, from the investigators. We will also report the results to date of other questions we will have attempted to answer in the course of the study.

Until January or February, 1977, about 3 to 4 days a week will be spent in the schools by members of the research team. This will drop during the early part of 1977 when the work becomes more analytical and the preparation of the final report begins to take priority.

The project will receive the equivalent of about one day per week full-time from the principal investigators, the full-time contribution of a researcher, and part-time participation by senior graduate students and consultants as described below. We plan on spending about three days a week in schools throughout most of the contract period.

Methodology. We will place highest priority on direct observation and personal contact. We will require access to school records and may request achievement or attitude information not presently there. We do not propose, however, mass testing. Furthermore, we would prefer to do any testing and use information in a school only with the support of the school community. This kind of study is very difficult to do if the school feels imposed upon, hence our strong desire to spend time getting known in the schools and earning their confidence.

We would like clearance from the School Board to deal as required with Principals, School Committees, and other groups. We would also like the Board to initiate general contact for the research team with teachers' associations.

Personnel

Principal Researcher

Professor Bruce M. Shore
Department of Educational Psychology and Sociology
Department of Methods of Research in Education
Centre for Learning and Development
McGill University

Researcher

Professor Ronald H. Tali
Department of Educational Administration
McGill Univeristy

Research Assistant (Full-time)

Mrs. Ellen Moss

2 Research Assistants (Part-time)

To be named, preferably graduate students, including possibly a new student from among the staff of the interested schools, who could use this experience as a basis for their theses.

Consultant

To be named, from Université de Montréal or UQAM

Advisors

Dr. Robert Lavery
M. Georges Grandmaison
Advisory Committee as met on March 12, 1976.

Staff shall be appointed so as to make the research staff capable of functioning in both English and French schools with equal facilit

Client Support Required

The School Board will undertake major typing tasks (e.g., reports), translations, duplication and publication of reports. Tests and similar materials will also be ordered through the Board.

Day-to-day typing and other routine work will be conducted at McGill, including computing.

Conditions

The confidentiality of pupils and school personnel will be assured in all reports of this project.

The data collected shall be available to the members of the research team for *bona fide* research purposes not necessarily directly arising from the present project. The Board will receive a copy of any product of such research and its contribution will be acknowledged.

Reports

At the times noted above one copy of each report will be presented in either English or French. Any translation will be subject to the approval of the Principal Researcher. The reports will be delivered to Messieurs Lavery and Grandmaison.

Timing

The project will begin whenever this contract is signed (intended to be early in 1976) and conclude in June 1977.

Cost

It is not expected that costs to be borne directly by the Board for services to this project would exceed normal operating costs. The costs stated below are those which will be administered by the Research Team at McGill.

Salaries (estimated for 17 months)

Principal Researcher	$2,500
Researcher	1,500
Research Assistant (Full-Time)	17,000
Research Assistants (Part-Time)	8,000
Consultant	1,000
Sub-Total	30,000

Travel Reimbursement (to schools)	600
Computing, Keypunching	1000
Salary Fringe Benefits	2000
Sub-Total	3600

Overhead, including, for example,

Typing
Stationery
Offices
Postage
Telephones
Accounting
Payroll

calculated at 20% of above totals $6720

(Please note: the normal contract overhead charge is 35% . The University is willing to consider this substantially reduced amount since the Board will be directly absorbing many of the ongoing costs for this project, but also because it is the first agreement between the parties and we recognize the constraints of short-term budgeting at another public educational body. It is important to point out, however, that in any future such contracts it would be necessary to anticipate moving toward the normal overhead charge.)

Proposed Total Budget $40,320

The amounts shown in the respective categories above are estimated and it is the intention that changes from item to item for billing purposes shall be allowed as the work proceeds, provided that the total cost of the contract does not exceed the total amount agreed upon and that the changes have the prior approval of the Principal Researcher.

The total amount will be paid in three equal instalments (1) within two weeks of the signing of the contract, (2) on or before June 1st, 1976, and (3) on or before January 15th, 1977.

Agreement

We believe that the data and results produced will be as accurate as can be reasonably expected. However, we accept no responsibility for damages arising out of the use and application of the data and the results by others. The reports to be produced will be the property of the Board. Members of this Research Team will receive copies and their contributions will be acknowledged on the title or following page.

No agreements or understandings not expressly stated herein shall be binding on the parties hereto. No alteration to this agreement shall result unless specifically agreed upon in writing by both parties.

These shall be no preference in the use of either English or French for communication between the Research Team and the Board, including this contract.

If this proposal is acceptable to you please countersign both copies in the appropriate place below and return one to us as our authorization to proceed.

APPENDIX 2

INTERIM REPORTS

MCSC PROJECT TO EVALUATE OPEN-AREA AND TRADITIONAL SCHOOLS: SUMMARY OF TESTING PROCEDURES

COMPILED BY:

ELLEN MOSS

PROJECT SUPERVISOR: DR. BRUCE SHORE

OTHER MEMBERS OF RESEARCH TEAM:

FELICITY TALLBOY
DORIT DESBAILLETS

Variable	Procedure	Source of Information	Instrument
Outcomes High School			
Cognitive Achievement	Coding	School Records	
Non-Cognitive Characteristics			
Attitudes	Paper-and-Pencil Test	Student	Survey of Study Habits and Attitudes
	Paper-and-Pencil Test	Student	School Sentiment Index
Adjustment	Paper-and-Pencil Test	Student	Bell School Inventory
Independence Initiative	Paper-and-Pencil Test	Sbudent	Dependence-Proneness Scale
Autonomy	Rating	Teacher	Minnesota Personality Profile II
Self-Responsibility	Paper-and-Pencil Test	Student	Intellectual Achievement Responsibility Questionnaire
Self-Concept	Paper-and-Pencil Test	Student	Coopersmith Self-Concept Scale
Creativity	Paper-and-Pencil Test	Student	Torrance Tests of Creative Thinking Figural (Form A)
			Torrance Tests of Creative Thinking Verbal (Form A)
Interpersonal Relations	Paper-and-Pencil Test	Student	Survey of Interpersonal Values

To: Summary of Dependent Variables, Procedures for Data Collection, Sources of Information and Names of Instruments.

Variable	Procedure	Source of Information	Instrument
ANTECEDENTS			
Characteristics of Teachers			
Background, training experience Preparation for present assignment and ongoing professional development	Questionnaire	Teacher	Background Questionnaire for Teachers
Characteristics of Students			
Background	Coding	School Records	
	Questionnaire	Student	Background Questionnaire for Students
Intellectual ability	Coding	School Records	
Physical Characteristics of Schools			
Teacher's Perceptions	Questionnaire	Teacher	Background Questionnaire for Teachers
Students' Perceptions	Questionnaire	Student	Background Questionnaire for Students
Transactions:			
Observation Variables			
Teacher Behavior	Observation	Observer	Teacher Practices Observation Record
Student Behavior	Observation	Observer	Coping Analysis Schedule for Educational Settings
Classroom Openness	Observation	Observer	Walberg-Thomas Observation Rating Scale
Physical Arrangement of Classroom	Observation	Observer	Sketch Form

Variable	Procedure	Source of Information	Instrument
Organizational Variables			
School Organization	Questionnaire	Principal	Dimensions of Schooling Questionnaire I
Classroom & School Organization	Questionnaire	Teacher	Dimensions of Schooling Questionnaires I & II
Outcomes Elementary	Coding		
Cognitive Achievement		School Records	
Non-Cognitive Characteristics			
Attitudes	Paper-and-Pencil Test	Student	School Sentiment Index
Independence Initiative	Paper-and-Pencil Test	Student	Dependence-Proneness Scale
Autonomy	Rating	Teacher	Minnesota Personality Profile II
Self-Responsibility	Paper-and-Pencil Test	Student	Intellectual AUhievement Responsibility Questionnaire
Self-Concept	Paper-and-Pencil Test	Student	Piers-Harris
Creativity	Paper-and-Pencil Test	Student	Torrance Tests of Creative Thinking: Figural Test (Form A)
	Paper-and-Pencil Test	Student	Torrance Tests of Creative Thinking: Verbal Test (Form A)
Attitude to Creativity	Paper-and-Pencil Test	Student	Creativity Attitude Survey
Interpersonal Relations	Paper-and-Pencil Test	Student	Survey of Interpersonal Values

Pre-Testing Structure

Observation:

Grades 2, 4, and 6, will be visited in the two pilot elementary schools, St. Michael's and Champlain. Two observers will visit each area or classroom, the instruments used in pilot-testing will be Walberg-Thomas Observation Rating Scale to indicate degree of program openers, The Teacher Practices Observation Record to indicate flexibility in teaching style, Cases to indicate student behavior. In addition, a sketch of the classroom floor plan will be done. A constant log of anecdotal incidents occurring during observation time will be kept by an observer.

First visit to a classroom will be approximately one hour. Two additional visits will be scheduled for a later time to last about 1/2 hr. each. An effort will be made to observe each classroom at different times of the day, different days of the week, and during different kinds of activities; e.g. art, social studies, religion, would be one visit, another would be during math, language arts, writing, or reading.

We will attempt to observe in about 12 classes during the pre-testing part of the study.

French Tests:

The translations of standardized English instruments which were undertaken for this study will be pre-tested in the French elementary schools and secondary schools.

The MCSC has typed and printed the instruments, which include the following:

disc for teachers	
disc for principals	
teacher questionnaire	
Minnesota Personality Profile II Intermediate	(MMPII)
School Sentiment Index - elementary level	(SSI-I)

School Sentiment Index - secondary level (SSI-S)
Intellectual Achievement Responsibility Questionnaire (IAR)
Coopersmith Self-Concept Scale
Dependence-Proneness Scale
Piers-Harris Self-Concept Scale

The instruments "disc for teachers" and "teacher questionnaire" will be pre-tested with a sample of approximately 30 teachers in the French elementary school, Champlain. "Disc for principals" will be given to the principal of this school as well as about 76 teachers in the school. The SSI-S, IAR, Coopersmith Self-Concept Scale, Dependence-Proneness Scale will be pre-tested with a sample of approximately 60 secondary II students in the French high schools. The SSI-1, Dependence Proneness Scale, IAR, Piers-Harris, will be pre-tested with approximately 60 Fourth-grade students in the French elementary schools.

The tests will be pre-tested in two packages. One group of 60 children in secondary II will receive the SSI-S and the IAR. A second group of 60 children in the secondary II will receive the Coopersmith Self-Concept Scale and the Dependence-Proneness Scale. In the elementary school, one group of 60 children will reveive the SSI-I and the IAR and a second group will receive both the Dependence-Proneness Scale and the Piers-Harris.

A FIRST REPORT TO THE M. C. S. C.
FROM THE RESEARCH TEAM TO EVALUATE
SELECTED OUTCOMES OF
OPEN-AREA EDUCATION

Report Prepared by: Ellen Moss

Principal Researchers: Bruce M. Shore
Ronald H. Tali

Other members of Research Team: Felicity Tallboy
Dorit Desbaillets

TECHNICAL REPORTS FOR M.C.S.C.

The research committee assessing the open-area programmes in the Catholic schools has been involved in reviewing relevant literature, formulating hypotheses which will be investigated in the coming year and choosing and adapting instruments with which to collect the data to test these hypotheses. We have formulated the following approaches to analysing the objectives mentioned in the contract between the M.C.S.C. and the research team.

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Theoretical Approach to Objective I

Objective: To report on the effects on students upon entry to secondary school of their having attended open-area elementary schools versus more traditionally constructed schools.

The research team plans to assess the cognitive abilities of students entering grade 8 from both open-area and traditional schools. We will look at the ability of students to interpret, summarize and compare information as well as their acquisition of the academic skills which are prerequisite to functioning in a high school setting. As well we will be looking at the problem-solving skills of students and their ability to be flexible in the application of appropriate thinking skills to meet new situations.

It is our feeling that perhaps the greatest differences will be prevalent in non-academic areas such as students' attitudes towards self, school, teachers and peers. We plan to look at students' self-concept or how they perceive themselves in the school setting, of primary interest as well will be their feelings towards the school environment in general and their perceptions of important persons in the educational setting i.e. teachers, administrators, classmates. These factors are closely related to students' adjustment to and success and failure in the setting. We intend to focus in on the group dynamics of the classroom through the exploration of questions such as: How do students from traditional and open-area schools function interpersonally? Does one group tend to be more conforming or dependent on the approval of others? Are students from one setting more comfortable in group situations, more able to assume leadership roles, and more cooperative and receptive to the needs of others? Are some students more able to assume varied roles or to share group responsibility? Related to these questions is the central issue of student independence. Do open-area classrooms produce students who are more autonomous, self-reliant, self-motivated and more responsible for their own learning? Are students from the open-area classroom more likely to take risks; are they more creative as individuals? Do they conceive of learning as a continuous life experience rather than just a classroom-centered activity? To answer some of these questions we will be investigating the extra-curricular activities of students from both the traditional and open-area settings.

Of particular interest is the question of what happens to the student from the open-area elementary school when he enters the basically traditional high school setting? Is it difficult to adjust from a flexible, unstructured programme to a structured one? To what extent is high school a reinforcement or contradiction of the expectations of students from various elementary schools?

Instruments to be used in assessing Objective I

To investigate these questions the research team has reviewed a variety of tests which have been validated and used in a number of research projects. The selection of instruments to be used for this project was made on the basis of their reliability as well as measurement techniques appropriate for this particular study.

The reliability of a measuring instrument refers to its stability and predictability. In other words, if we measure the same set of objects again and again with the same measuring instrument, can we depend on getting similar results? The validity of a measuring instrument refers to the degree to which it measures the aptitude and ability it was designed to test. For example, a teacher has constructed a test to measure understanding of scientific procedures. The test is not valid, because while it may reliably measure the pupils' factual knowledge of scientific procedures, it does not measure their understanding of such procedures.[1] This illustrates the importance of the pilot-testing period we have designated for the fall. All instruments to be used in the study must be pilot-tested to insure that they are suitable for use in both French and English settings and in both traditional and open-area classes.

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[1] Kerlinger, F.N.: Foundations of Behavioral Research: N.Y.: Holt, Rhinehart

The research team wishes to emphasize the complete annonymity under which testing will take place. It is not our intention to make individual evaluations of teachers or pupil conduct. We are interested in reporting statistical outcomes based on many schools. Any personal information that we receive will remain strictly confidential and names will not appear in our final report.

We will make our final selection of instruments to be used in assessing Objective I from the following list:

Moreover, it is in accordance with this undertaking, not to expose pupils to mass testing. We have designed our research techniques with the aim of minimizing the amount of time required from both pupils and teachers to complete tests or questionnaires during the course of study. Each student will be asked to complete an average of two or three tests requiring approximately one hour for total administration and completion of all tests.

In order to collect data on the cognitive abilities of students entering high school from both traditional and open-area schools, the research team will make use of information assembled in school records.

To investigate non-cognitive areas, such as attitude and personality variables, we have initially selected the following instruments; we will make our final selection of instruments to be used in assessing Objective I from the following list:

The Survey of Study Habits and Attitudes
W.F. Brown and Wayne H. Hotzman

An easily administered measure of study methods, motivation for studying, and certain attitudes towards scholastic activities which are important in the classroom.

The test-retest reliability coefficients were .95, .93,.93 and .94 over a second period for the four subscales of the test i.e. Delay Avoidance, Work Methods, Teacher Approval, Education Acceptance and .95 for the total score over a two-month interval.

These studies indicate that the four subscales scores are sufficiently stable through time to justify their use in predicting future behaviour in a school context.

The Piers-Harris Children's Self-Concept Scale

A self-report instrument, designed for research on the development of children's self-attitudes and correlates of these attitudes. A two-month and four-month test-retest coefficient of .77 was calculated for the test. The scale is judged to have good internal consistency and adequate temporal stability.

Holgarth General Interest Survey

An inventory of activities and interests junior high students engage in. This inventory will be adapted to the Quebec context, as it is designed for use in the U.S. Impulsivity Scale: B. Sutten-Smith and B.G. Rosenberg.USA. This scale was designed as a measure for distinguishing the most impulsive from the least impulsive in any group of children.

This scale was validated by using teacher ratings. In all the comparisons except one the scale score correlated significantly with these ratings. The test-retest reliability was .85.

Intellectual Achievement Responsibility Questionnaire

N.A. Flanders, P. Katkovsky, V.J. Crandall

The IAR Questionnaire attempts to measure the child's beliefs on whether he is responsible for his progress or whether external factors beyond his control affect his progress. The test-retest reliability coefficients for a at the .001 level.

In cases where low reliability coefficients have been reported in the literature for certain tests the research team will make their own reliability and validity studies during the pilot-test period.

Theoretical Approach to Objective II

Objective II -

To report on possible ways in which the interests and aptitudes of pupils and teachers in groups or as individuals may affect their suitability for "open-area" and "open" schools.

This is a difficult question to hope to answer in the context of our present one-year project since it really demands data of a longitudinal nature. However, our review of relevant literature and our experience in open classrooms has suggested a number of factors which may be important in assessing student or teacher suitability for "open" and open-area" classrooms.

Several ideas which we will explore in reference to student suitability are: student self-reliance, decision-making ability and anxiety. Another variable which may be of interest is the effect of teacher expectations on the individual student. As well it will be of interest to know how non-achieving students are dealt with in "open-area" classrooms. Perhaps the environment of either traditional or "open" classrooms may be more suitable for the education of children with learning problems. Likewise, perhaps exceptionally gifted children are more suited to a particular type of classroom environment.

We tend to explore some of the personality and attitudinal variables which may influence teacher suitability for the "open" classroom situation. Some factors of importance may be the individual teacher's ability to handle the stress of high noise levels and diverse simultaneous activities. The teacher's perception of the teaching role and other elements of her educational philosophy may be important factors.

Instruments to be used in assessing Objective II

Besides interviewing individual teachers and students, we will make use of all or some of the instruments listed below in assessing objective number 2. We feel that it is extremely important to get extensive teacher feedback on the suitability of the measuring instruments to be used in the final evaluation. This is one of the purposes of having a pilot study stage.

The Peterson Problem Checklist

The Peterson Checklist may be completed by a teacher who is familiar with the child. It measures two dimensions of behaviour-conduct problems and personality problems. Interjudge reliability was found to be approximately .76 over a two-month period.

The Child's Manifest Axiety Scale

It consists of 53 items in which the child indicates agreement or disagreement regarding the applicability of the behaviour to himself. Among these 53 items, 42 are anxiety items and 11 refer to an L subscale that provides an index of the subject's tendency to falsify his responses. Reliability coefficients for both scales have included the following results: .90 for the anxiety (A) scale and .70 for the (L) scale over a one-week interval.

Minnesota Teacher Attitude Inventory

This inventory was designed to measure teacher's perceptions of the teaching role and relationships within the classroom. The reliability of this scale as determined by the split-half method was .92 over a two-month interval.

Teacher Practices Inventory

This is a test which measures teachers' approaches to the teaching situation. It attempts to measure the personal and educational beliefs of teachers which may influence their behaviour in the classroom.

Personal Beliefs Inventory

This inventory measures an individual's fundamental philosophic and educational beliefs as well as the rigidity-flexibility of an individual's belief system.

Teacher Practices Observation Record

The TPOR provides a framework for observing and recording the classroom practices of teachers without making judgments based solely on subjective perceptions. Since inter-observer reliability is relatively high for this instrument, subjective bias is minimized.

Cases: A Coping Analysis Schedule for Educational Settings

A comprehensive behaviour rating scale which characterizes overt child behaviour in the classroom. It is useful as a means of measuring change in process of socialization as well as providing immediate feedback to teachers on the effectiveness of specific techniques of classroom management and instruction.

Theoretical Approach to Objective III

Objective III -

To report on the pedagogical advantages of open-area schools in the context of the distinction between pedagogy and architecture in these schools.

We will approach this objective through careful observation of what is really going on in the "open-area" classrooms. The literature reveals that not having walls in a school does not necessarily result in a change in pedagogy. In other words, "open-area" classes are not necessarily more student-directed, more flexible and more creative environments than traditional classrooms. The main questions of interest to us are: What is the role structure of teacher and student in the open-area class? What are the goals of the open-area schools? Is there a fundamental difference in methodology of teaching, evaluation of students, organization of time in "open-area" schools as compared with traditional schools? Are teachers more satisfied in one type of class as compared to another? Do students develop and interact differently in the open-area as compared with the traditional classroom setting? In order to get a somewhat objective viewpoint on what is happening in classrooms we have selected several classroom observation rating scales. These scales list items of behaviour which occur in a classroom. Items are classified as either teacher behaviour, student behaviour, teacher-student, or student-student interaction. In order to obtain reliable data, two observers usually must code their observations on items of the scale. The amount of inter-observer agreement determines the reliability of the data obtained using the scale.

Instruments to be used in assessing Objective III

Our final selection of observation instruments, based on the results of pilot-testing, will be from among the following:

Florida Taxonomy of Cognitive Behaviour

This instrument provides a framework for observing and recording the cognitive behaviour of the teacher and students in a classroom. Based upon the "Taxonomy of Educational Objectives: Cognitive Domain" (Bloom 1956) it is a sign system comprised of items organized in a somewhat hierarchical order, from the most simple to the more complex of cognitive activities.

Walberg-Thomas Rating Scale

This instrument is a classroom observation rating scale which focuses on elements of open classrooms. It attempts to measure the degree of "openness" of the class through the use of trained observers.

Classroom Creativity Observation Schedule

The purpose of this observation schedule is to gather objective information concerning teacher-pupil behaviour which relates to pupil creative growth.

Individually Prescribed Instruction Observational Schedule

This observation rating scale describes activities which may go on in a student-oriented classroom. It is useful as an index of the extent to which individualized programmes are in operation in the classroom.

DISC

Disc is a classroom observation questionnaire dealing with the activities interactions and roles which are part of the general classroom climate. It is designed to be completed by teachers and attempts to ascertain the degree of "openness" of a particular classroom.

Theoretical and Methodological Approach to Objective IV

Objective IV -

To report areas in which teachers and administration in open-area elementary schools would benefit from in-service education.

The results of classroom observation, testing of students and discussion with faculty, students, administrators and other individuals involved in the teaching-learning process will hopefully indicate beneficial directions for the development of in-service education. A prime area of concern in this development is to ascertain how the role of administrators can best help facilitate the teaching-learning process. Related to this is the issue of what are the processes and structures through which decisions are reached and school policies established.

As well there are important questions in teacher-pupil relationships. How can the teacher of the open-area classroom most effectively help and develop children's interests? What are the relative merits of the amount of teacher intervention? On a practical level are the questions of how to prepare materials for use by a wide variety of children and how to effectively evaluate students in a classroom situation which is focused on the progress of each individual. Another area of concern is that of assigning staff to open-area schools. It is important to investigate how the variable of teacher choice interacts with teacher satisfaction and with effectiveness in an open-area classroom. Do teachers who have chosen to work in open-area classrooms function better and feel happier than teachers who had no say in their placement?

Hopefully the results of this study will have much to contribute towards answering these questions.

Sample to be used in this Study

The third revision of the list of schools to be included in the sample for this study is appended.

LA COMMISSION DES ÉCOLES CATHOLIQUES DE MONTRÉAL
THE MONTREAL CATHOLIC SCHOOL COMMISSION

Montreal, January 14, 1977.

Monsieur Jean-Paul Tardif,
Directeur général,
Commission des écoles
catholiques de Montréal.

Dear Mr. Tardif:

When the report on the study of open space schools was presented to the board at its regular session of October 7, 1976, it was promised that three further reports would be submitted in the course of the year. The first of these was submitted on September 10, 1976. Attached you will find the second of these reports.

This report gives a concise summary of the activities of the research team to-date as well as the methods to be used in the pursuit of the objectives of the study which were described in the preceding report.

The report has been scrutinized by the Advisory Committee which we established at the beginning of the study. The committee members are enthusiastic about its promise.

The Advisory Committee, the researchers and the undersigned remain at the disposal of the Commissioners should they wish any further information.

Would you please forward this report to the Commissioners for their information.

Sincerely yours,

E Lavery

Robert E. Lavery,
Deputy Director General.

Le sous-directeur général
Délégué à la pédagogie française

Georges Grand'Maison

Georges Grand'Maison

REL/yoc
encl.

INTERIM REPORT TO THE M.C.S.C.
FROM THE RESEARCH PROJECT STAFF
EVALUATING OPEN-AREA SCHOOLS

DECEMBER 1976.

COMPILED BY: Ellen Sheiner-Moss
Active Researcher.

Principal Researchers:

Dr. Bruce M. Shore
Dr. Ronald H. Tali

Other members of Research Staff:

Dr. Gaston Gauthier
Consultant - Université du Québec

Dorit Desbaillets
Felicity Tallboy
Assisting Graduate Students

A - INTRODUCTION

The research team has been actively involved in the schools of the M.C.S.C. since September, 1976. School staff have been contacted and informed about the study and initial observations have been carried out in classrooms.

A final selection of instruments has been made and translation and printing of these instruments has been completed.

A final selection of participant schools has been made in both the French and English sectors.

A more detailed summary of accomplishments to date, testing procedures, selection of schools and instruments, and forecasted schedule for the coming months follows in this interim report.

B - FINAL SELECTION OF SAMPLE

The following chart (Table I) lists the schools which have been selected to participate in the study by region and by type - high school (a) open-area elementary, (b) comparison open-area, and (c) regular elementary school.

Schools named in "A" under "Schools for the Main Part of the Study" will be visited extensively by the research team. In these schools testing of children, observation in classrooms, distribution of questionnaires to staff and staff interviews will be carried out.

In the high schools named in the first column, a sample of cycle I students will be tested on non-cognitive measures. Information on achievement and other cognitive measures will be obtained from school files. As well, a sample of teachers involved with cycle I students in those high schools will be interviewed.

The open-area schools listed in column (a) and the regular schools listed in column (c) are the principal elementary schools in the study. In these schools, we will conduct observations in a number of classes, generally in levels 2, 4 and 6. We will attempt to observe a sample of classes which is representative of the individual schools in the different regions.

TABLE I

Etude des résultats obtenus dans les classes à aires ouvertes de la C.E.C.M.

A. ECOLES QUI FORMERONT LA MAJEURE PARTIE DE L'ETUDE

REGION	Ecole Secondaire	Ecole élémentaire à aires ouvertes (a)	Comparaison de l'école à aires ouvertes (b)	Ecole élémentaire de conception régulière (c)
1	St-Henri	St-Joseph	Victor-Rousselot	Ludger-Duvernay
2	Lionel-Groulx (filles) St-Stanislas (garçons)	St-Louis	Lambert-Closse	St-Jean Baptiste
3	Louis-Riel (garçons) Marguerite-de-la-Jemmerais (filles)	Guillaume-Couture	______________	St-Fabien
A	Cardinal Newman	Nazareth	______________	Luke Callaghan
B	Sir Wilfrid Laurier	Gerald McShane	______________	All Saints

B. ECOLES QUI FERONT L'OBJET D'UNE ETUDE COMPLEMENTAIRE

3	Marie-Reine	Baril	______________	La Nativité
5	St-René-Goupil	Jules-Verne	______________	Bienville
A	______________	St. Gabriel's	______________	______________

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TABLE I (continued)

Etude des résultats obtenus dans les classes à aires ouvertes de la C.E.C.M.

C. ECOLES DESTINEES AU PROJET-PILOTE

EGION	Ecole Secondaire	Ecole élémentaire à aires ouvertes	Comparaison de l'école à aires ouvertes	Ecole élémentaire de conception régulière
		(a)	(b)	(c)
2	Gabriel-Souart (filles) Jean-Baptiste-Meilleur (garçons)	Champlain	____________	____________
B		St. Michael's	____________	____________

In these schools, we will also be interviewing several members of staff personally as well as requesting all staff to fill out questionnaires.

A sample of students in levels 4 and 6 will be tested on non-cognitive measures in each of the elementary schools listed in (a) and (c). School files will be consulted to obtain cognitive measures.

Schools listed in column (b) under "Comparison Open-Area Schools" will not be used directly in the study. However their graduates who are now attending cycle $\bar{\underline{I}}$ in the high schools selected for the main part of the study may be included in the high school sample.

Schools listed under "B" "Schools for Supplementary Study" will be involved less extensively in the study. In these schools questionnaires will be distributed to staff and observations will be made in a sample of classes. No testing of pupils will be carried out.

Schools listed under "C" "Schools for Pilot Testing" were used to pre-test the instruments and procedures to be used in the study.

C - FINAL SELECTION OF INSTRUMENTS

A list of the dependent variables to be considered in the study along with information about the procedure used to collect data on each variable, the source of the data, and the name of the specific test, questionnaire, checklist or observation record used in collecting the data is given in Table II. These variables have been classified into three categories: Antecedent, Transaction and Outcome variables.

Antecedents are conditions existing prior to teaching and learning which may relate to outcomes. The design of the study did not allow for the random assignment of teachers and students to schools with different types of architecture. In this situation initial differences in background characteristics of teachers and students, might be responsible for interschool differences in outcomes that otherwise would be attributed to the school characteristics considered as the treatment variables. In order to determine whether there were interschool differences on antecedent variables, information was collected on a diversity of teacher and student characteristics and on teacher and student perceptions of the physical characteristics of the schools.

Transactions, in the sense used here, are those variables which describe the series of events which comprise the process of education. They include students encounters with teachers, with other students,

TABLE II

SUMMARY of Dependent Variables, Procedures for Data Collection, Sources of Information and Names of Instruments.

VARIABLE	PROCEDURE	SOURCE OF INFORMATION	INSTRUMENT
ANTECEDENTS			
Characteristics of Teachers:			
- Background, training experience	Questionnaire	Teacher	Background Questionnaire for Teachers
123 Preparation for present assignment and ongoing professional development			
Characteristics of Students:			
- background	Coding	School Records	
- Intellectual ability	Coding	School Records	
Physical Characteristics of Schools:			
- Teacher's Perceptions	Questionnaire	Teacher	Background Questionnaire for Teachers
- Student's Perceptions	Questionnaire	Student	School Sentiment Index

TABLE II (continued)

VARIABLE	PROCEDURE	SOURCE OF INFORMATION	INSTRUMENT
	TRANSACTIONS		
Observation Variables:			
- Teacher Behavior	Observation	Observer	Teacher Practices Observation Record
- Student Behavior	Observation	Observer	Coping Analysis Schedule for Educational Settings
- Classroom Openness	Observation	Observer	Walberg Thomas Observation Rating scale
- Physical Arrangement of Classroom	Observation	Observer	Sketch Form
Organizational Variables:			
- School Organization	Questionnaire	Principal	Dimensions of Schooling Questionnaire I
- Classroom & School Organization	Questionnaire	Teacher	Dimensions of Schooling Questionnaire I & II

TABLE II (continued)

VARIABLE	PROCEDURE	SOURCE OF INFORMATION	INSTRUMENT
	OUTCOMES		
	ELEMENTARY STUDENTS		
Cognitive Achievement:	Coding	School Records	
Non-Cognitive Characteristics:			
- Attitudes	Paper and Pencil Test	Student	School Sentiment Index
- Independence	Paper and Pencil Test	Student	Dependence - (Intermediate Level) Proneness Scale
- Self-Responsibility	Paper and Pencil Test	Student	Intellectual Achievement Responsibility Questionnaire
- Self-Concept	Paper and Pencil Test	Student	Piers-Harris Self-Concept Inventory

TABLE II (continued)

OUTCOMES

HIGH SCHOOL STUDENTS

VARIABLE	PROCEDURE	SOURCE OF INFORMATION	INSTRUMENT
Cognitive Achievement:	Coding	School Records	
Non-Cognitive Characteristics:			
- Attitudes	Paper and Pencil Test	Student	School Sentiment Index Secondary Level
- Independence	Paper and Pencil Test	Student	Dependence-Proneness Scale
- Adjustment	Rating	Teacher	Minnesota Personality Profile II
- Self-Responsibility	Paper and Pencil Test	Student	Intellectual Achievement Responsibility Questionnaire
- Self-Concept	Paper and Pencil Test	Student	Coopersmith Self-Concept Scale
- Interpersonal Relations	Paper and Pencil Test	Student	Survey of Interpersonal Values
- Interests & Activities Extracurricular	Paper and Pencil Test	Student	Strong-Campbell Interest Inventory

TABLE II (continued)

VARIABLE	PROCEDURE	SOURCE OF INFORMATION	INSTRUMENT
	OUTCOMES		
	TEACHER & ADMINISTRATOR		
Feelings about Open-Area Schools:	Questionnaire	Teacher & Administrator	Questionnaire on Open-Area Schools
	Interview	Teacher & Administrator	

and curricular materials. Data on several types of transactions provide partial validation evidence for teachers' and students' responses to questionnaires and in general, provide an insight into the kinds of resources and personnel employed in the schools.

Outcomes refer to the effects that antecedents and transactions have on students teachers and administrators. A major problem was the identification of appropriate student behaviour to be considered as outcomes. Since schools representing various forms of education were included in the study, it was necessary to ensure that the outcomes of different types of education were included. Teacher outcomes associated with the study were designated as their feelings towards different methods of education, towards types of architecture, and their degree satisfaction with their past and present teaching assignments. Administrators' feelings towards these issues were also included as outcome variables to be assessed.

ANTECEDENT VARIABLES:

Characteristics of teachers:

There are several types of teacher characteristics that may be influential in school settings. Two sets of characteristics consist of demographic information - the teacher's educational background, training, and experience and his or her preparation for the present assignment and professional development. Information about these two sets of characteristics was obtained through administration of the Background Questionnaire for Teachers.

Characteristics of students:

Since one of the objectives of this study is to determine the suitability of different types of students for particular educational environments, it is necessary to gather descriptive data on those students involved in the study. Student variables of interest include personal characteristics such as ethnic background and socioeconomic level; previous educational experience in regular and open-area schools; as well as intellectual ability. Data on all the afore-mentioned student characteristics will be obtained from school records.

Physical Characteristics of schools:

The choice of a procedure for assessing the physical environment of a school rested on the assumption that what really matters is how people perceive the environment in which they interact. An old school building probably does not seriously interfere with the process of schooling unless its characteristics, as perceived by teachers and pupils render it a difficult place in which to work. On the other hand, a new building will not necessarly facilitate schooling. It must enbody qualities that are perceived by teachers and students to be helpful in accomplishing their objectives.

The perceptions of teachers and students about the physical environment of their school was assessed respective by the Background Questionnaire for Teachers and the School Sentiment Index.

TRANSACTION VARIABLES

Observation variables:

Several procedures will be used to obtain information on the day-to-day activities of students and teachers. The main focus of observation procedures is to determine if there exists any correspondence between the type of architecture in schools and the mode of pedagogy.Observational study provides descriptions of the educational process which are independent of previous school classifications. The observational instrument chosen to index the mode of pedagogy is the "Teacher Practices Observation Record". The TPOR is an observational rating scale which itemizes several aspects of pedagogical style such as modes of communication selection of and use of subject matter, evaluation, and control.

Aspects of student behavior will be assessed by use of a modified form of the "Coping Analysis Schedule for Educational Settings". CASES is designed to describe the social interaction of students with the teachers and fellow students. Students in programs which provide frequent regrouping and diversity in group size may interact differently in social situations within the classroom. CASES is an observation rating scale which itemizes various social behaviors such as cooperation, integration, attentiveness.

The Walberg Thomas Observation Rating Scale will be used to obtain a general index of program openness. It provides information on the positions, activities and materials used by students and teachers.

The Sketch Form is used to provide an actual representation of the classroom or area. The observer makes a rough drawing of the learning space noting such things as the placement and type of furniture, storage, working, and empty spaces, and materials on bulletin boards.

Observations will be conducted in approximately 6 classrooms in each traditionally constructed school. In the open-area schools, this corresponds to the same number of classroom-size divisions in the open areas. In order to observe in a random sample of classrooms, we have chosen levels 2, 4 and 6 in each school. In each open-area school, these 3 levels will be visited, while in traditional schools. 2 classrooms of each of these levels will be observed. As well, any areas of special interest such as classes which are following programmes involving family grouping and integrated day will also be included in observations.

First visit to a classroom and area division will last approximately one hour. Two additional visits will be scheduled for a later time to last about ½ hour each. An effort will be made to observe each class at different times of the day, on different days of the week and during different kinds of activities. In addition to use of the observation instruments already described, a constant log of anecdotal incidents occuring during observation time will be kept by the observer.

OUTCOME VARIABLES

The outcomes variables relate to both elementary and high school students and teachers and administrators. The student variables concern both cognitive and non-cognitive characteristics.

The question of concern in the cognitive domain is if we find differences in achievement between students who have attended open-area schools in comparison with those who have attended traditionally-constructed schools. We will attempt to answer this by using school records.

The concept of open education might be expected to influence the development of certain non-cognitive characteristics. The following non-cognitive variables will be assessed by using several instruments with elementary-level students:

ATTITUDES TOWARD SCHOOL: The School Sentiment Index (Intermediate Level) will be used to find out whether students are interested in school work, enjoy school, or have negative feelings toward school.

ATTITUDES TOWARD TEACHERS: Items on the School Sentiment Index also deal with how students feel they are treated by teachers, whether students like teachers, and whether they think teachers like and understand students.

INDEPENDENCE: The Dependence Proneness Scale will be used to assess the extent to which students make decisions or their own stand up for their rights and act independently of others.

SELF-RESPONSABILITY: The Intellectual Achievement Responsability Questionnaire will be used to find out whether the student is more likely to behave in the way he feels he should or in the way others like him to behave.

SELF-CONCEPT: The Piers-Harris Self-Concept Scale will be used to assess how well the student feels he is liked by others how much self-confidence he has whether he feels inadequate in various situations and whether he thinks he is doing well on the tasks he attempts to do in school and elsewhere.

With cycle I students the same instruments will be used to assess attitudes towards school and teachers, independence, self-responsability and self-concept (The intermediate level of the School Sentiment Index will be used instead of the elementary level).

In addition, the following outcome variables will be looked at:

ADJUSTMENT: A modified form of the Minnesota Personality Profile will be used to provide teacher's perceptions of students' adjustment to the high school setting. The MMPI is a checklist to be completed by a teacher concerning several aspects of a student's adaptation.

INTERPERSONAL RELATIONS:

The Survey of Interpersonal Values will be used to find out what values students hold in regards to social interaction. If they value cooperation, sharing, helping, others, etc...

INTERESTS & ACTIVITIES:

The Strang Campbell Interest Inventory will be used to assess whether Cycle I students who have graduated from open-area schools pursue more learning-oriented activities out of school than graduates of traditionally-constructed schools.

The outcome variable of interest with regard to teachers is their relative satisfaction with their teaching environment. A questionnaire will be distributed to teachers which deals with their feelings towards the open-area. As well a sample of teachers and administrators will be individually interviewed about their experiences in open-area and regular classrooms. The interviews will focus on teachers' perceptions of the disadvantages and advantages of different teaching environments, the ways in which teachers employ team-teaching and grouping, and teachers' suggestions for in-service training programmes which would be of value to them. Administrators will also be asked to fill out questionnaires and participate in interviews.

D - STAGE NOW REACHED IN THE RESEARCH PROJECT

During the months of October and November, 1976, observations were conducted extensively in the French and English pilot schools. The purpose of these observations was to verify the observation procedure and pre-test observation instruments. 12 classes of area divisions were observed on three different occasions according to the model described earlier in the section "Observation Variables". In the course of these visits, the observation procedure and instruments were modified and standardized.

During this period, the Standardized English tests were also translated into French with the permission of their publishers. These translations were verified by a team of experts. Both the French and English tests were printed by the M.C.S.C. after permission was received from the publishers of the English versions.

In late November and December, initial meetings with the schools involved in the project were conducted. At these meetings, project staff met with the school principal and the school Staff Council and a small group of teachers to discuss the goals of the study, procedures, and to solicit staff cooperation. The teachers present at these meetings were then asked to inform their colleagues about the study and report back to the project staff whether or not their fellow teachers agreed to co-operate. In all schools, staff members for the most part were very willing to participate. Since late November, observations have been in progress in the schools selected to be part of the sample.

As well, interviews with staff members have been underway, a validation procedure for the tests and questionnaires selected to measure outcome variables are also in progress and will be completed in the near future.

The collection of data in the high schools will begin in early January. The high schools included in the sample suggested that this would be a more appropriate time to enter the schools than earlier in the year.

APPENDIX 3

Extension of the Research at the initiative of the Ministry of Education

Background

Having heard of this research, the Ministère asked the principal researchers to extend the project. The agreement reached included the following points:

(1) that the research extend outside the territory of the Montreal Catholic School Commission, and

(2) that a francophone researcher join the research team at McGill University. (This position was accorded to Madame Cécile Touzin-St-Pierre, professor at Laval University. Her contract was from September 1976 to June 1977 and was completely assumed by the Ministère.)

Sample

The sample covered twelve schools in four geographic regions of Quebec. The list of these schools appears in Table 1 of the report.

Conditions

The extension of the research into four regions of Quebec was to conform totally to that conducted within the M.C.S.C. The objectives pursued, choice of instruments, questionnaires and statistical analysis were to be identical to those within the Montreal region.

APPENDIX 4

List of

BACKGROUND DOCUMENTS

Provided by

The Montreal Catholic School Commission (CECM)

The Ministry of Education of Quebec (MEQ)

Ecoles décloisonnées. Extraits et traduction de "One-space school project bulletin, "No. 1, 1970, Standford University, Alexandre Lamirande, Conseiller régional en planification scolaire, C.E.C.M.

Classification empérique des écoles secondaires françaises de la C.E.C.M.
par Manuel Crespo.. Service des études, Division des services spéciaux. C.E.C.M., Octobre 1975. (60 pp.)

Inventaire de la situation actuelle des écoles à aires ouvertes.
Service des études, Division de l'organisation scolaire, Bureau de l'organisation de l'enseignement à l'élémentaire C.E.C.M., juin 1973. (33 pp.).

Inventaire des écoles élémentaires dites à "aires ouvertes".
Service de l'organisation de l'enseignement, ministère de l'Education, Québec, juin 1974. (18pp.)

L'école à aires ouvertes, son organisation, son utilisation ses possibilités.
Division de l'organisation scolaire, Bureau de l'organisation de l'enseignement à l'élémentaire, Service des études, C.E.C.M., (pas de date). (47pp.)

L'école élémentaire de demain. Division de l'organisation scolaire, Bureau de l'organisation de l'enseignement à l'élémentaire,Service des études, C.E.C.M., (par JGT et YB, pas de date). (19 pp.).

L'école sans mur par Adrian Roy. Extrait de l'Action pédagogique, décembre 1970. (12 pp.).

Les écoles à aires ouvertes. C.E.C.M., Mars 1971 (11 pp.)

Les écoles à aires ouvertes. Avis du Conseil supérieur de l'Education au MEQ concernant . . ., (pas de date), (pb. cv. 25. 1031). (24 pp).

Les écoles élémentaires à aires ouvertes. Lettre à la présidente de la C.E.C.M., de l'Association des directeurs d'école de Montréal (Roger Letournaux, Président), le 16 mars 1973. (4 pp.).

Ecoles à aires ouvertes. (liste) C.E.C.M. (sans date). (2 pp)

Operation space; The operation of St. Michael School for 1973-1974, C.E.C.M. (33 pp.).

L'école à aires ouvertes (brochure) Bureau des relations publiques, C.E.C.M.

Répertoire des écoles--School directory. C.E.C.M., 1975. (74 pp.).

Staffing of open space schools, C.E.C.M., March 1972 (7 pp.).

APPENDIX 5

Reports of Team Members on Schools in the study

QUEBEC Schools:

Elementary
Secondary

MONTREAL Schools:

Elementary
Secondary

Quebec:

ELEMENTARY SCHOOLS

The following schools are under the jurisdiction of the same school board: Ancienne Lorette.

JACQUES-CARTIER SCHOOL (closed-area)

This school is located in a half rural, half urban socio-economically middle class area. Geographically located on the shores of Jacques-Cartier River, this school is located on a enchanting site. In addition, a wooded area measuring one mile long by 250 feet wide is loaned to the school by a forestry company. This real Natural Science laboratory, is used by the teachers as a place for relaxation and outdoor activities for the benefit of their students.

The teaching areas are traditional closed classrooms, but the teachers, especially in the fifth and sixth grades, have opened the spaces in their classrooms and practised an open pedagogy.

From the atmosphere point of view, the teamwork between the school principal and the teachers among themselves is excellent. This is the result of a dynamic principal who is open to participatory change. Their spirit of fraternity and collaboration has a positive influence on the students' motivation and interests.

From the pedagogical point of view, the school principal and the teachers are always on the look-out for whatever is referred to as renewed pedagogical programs. In classrooms, I saw a large number of instructional materials created by the teachers and their students with a goal to keep pedagogy alive.

In their classrooms, teachers have a pedagogical assistant and a Math Specialist who are at the service of all the teachers according to their needs.

In the in-service training area, teachers participated in research projects with researchers from Laval University in addition to taking courses individually.

In a word, teachers were concerned with implementing active methods, improving and renewing themselves. The students appeared to be well and happy in school.

L'ETINCELLE SCHOOL (open-area)

This school is located in a half rural, half urban socio-economically middle class area.

This open-area school has gone through the closing up of open-areas over the past four years. From three to four teachers who were assigned to one teaching area, the groups were reduced to two teachers and even to one teacher performing individually in the cases of Levels Three and Five.

The atmosphere is good and the team spirit between the school principal and teachers is a positive point. We noted aggressive behavior in many students, especially in the sixth grade. From the pedagogical point of view, traditional and open pedagogy were both applied in this school. Interesting experiments were carried out in this field by a few teachers. Teachers are given the services of a pedagogical assistant who devotes approximately half of his time to helping teachers in their classes. A few teachers (approximately 1/4 of them) were attending in-service training programs.

The director and most of the teachers viewed this research to reflect on their experience to-date in open-areas.

The following schools are under the jurisdiction of the same school board: Beauport

STE-BRIGITTE DE LAVAL (closed-area)

This is a so-called country school located in a socio-economically weak area. Geographically, this school is located in a picturesque site where the community participation in the school program could be favourably exploited, but this is not the case.

The atmosphere in the school was good: the school principal and the teachers worked as a team and activity supported the research.

From the pedagogical point of view, teaching methods are of a traditional type where only one or two teachers attempted to apply new methods. They have no pedagogical assistants and the school is poorly equipped with instructional materials. No student nor teacher pedagogical materials, resulting from renewed or active pedagogy, were noticed. From the in-service training point of view, teachers can hardly fulfill their task; they live far from in-service training centres. This seems to be the reason for their weak characteristics.

This underpriviledged area is felt among both teachers and students.

COMMANDEUR DESJARDINS SCHOOL (open-area)

This school is located in a half rural, half urban socio-economically weak area.

Geographically, the neighboring area of the school has natural resources which are exploited by a number of teachers.

This open-area school was implemented six years ago against the will of the local community. Since then, teachers have been performing against the public opinion and part of the school population is found to be difficult or "special" and aggressive student behavior is common.

The relationship between the school principal and teachers was excellent. The pedagogical experiments were fully shared among the teaching areas. Except in a few cases, teachers were also open for new trends; they seemed willing to revise decisions frequently and make changes.

Pedagogical assistants are available in many disciplines. The open use of physical space is especially notable in the sixth grade.

From the improvement point of view, teachers were abreast of the pedagogical trends and they formed a team with researchers from Laval University and other groups where they experienced new pedagogical projects. This school is the host of many visitors and has taken part in France-Quebec exchange programs for the past three or four years. The principal is dynamic and open, but the situation is difficult.

This school offers many dynamic aspects but many problems among students and instability among teachers have been noticed. Despite the willingness to cooperate, it was not always easy to arrange classroom observations.

The following schools are under the jurisdiction of the same school board, Des Manoirs.

LE RUCHER (open area)

The school population at Le Rucher School in Mascouche West comes from a rural socio-economically weak area. In Addition, a large proportion of the school population comes from foster homes where many cases of so-called special or problem students are found. Student aggressiveness is especially in the sixth grade.

The atmosphere in this school which is already disturbed seemed to be complicated by such a school population. Except for levels Three and Four, individualism is one of the characteristics noticed among the teachers. There was also a change in principal during the year.

One of this school's main problems is due to the very architecture of the building. One half of the school is occupied by Levels Five and Six areas which are entirely open. The fact that teachers worked individually in these areas resulted in nervous tension, frustration, noise and disorder for both teachers and students. In addition, prefabricated buildings were added to the school due to lack of space. Levels One and Two are located in these areas where teachers performed their duties in closed areas which justifies the lack of certain data for Level Two.

In Levels Three and Four, teachers worked in pairs which resulted in better relationship and better teaching. Little or no pedagogical materials were noticed.

With regard to in-service training sessions, a very weak proportion of teachers were enrolled in a training program.

This group of teachers showed signs of fatigue and weariness.

Note: I heard that this year, walls were put up by the school board and consequently the open-areas no longer exist.

LA MENNAIE SCHOOL (closed area)

This school is located in a half rural half urban area of a socio-economically middle class community.

Geographically it is located in the old part of Mascouche. This is a traditional type of school where a relatively open pedagogy is offered, especially in third, fourth and sixth grades. The teachers are active, interested, and enthusiastic. They communicate this spirit to the pupils. Therefore, the school atmosphere was good and relaxed. The relationship and collaboration among teachers was excellent with resulting good discipline.

I was unable to find out whether the teachers were offered or were taking part in in-service training sessions, but the type of pedagogy offered showed a will for renewed programs. The teachers' dynamic attitude was highly interesting.

The following schools are under the jurisdiction of the same school board: des Milles Isles.

VAILLANCOURT SCHOOL (open area)

This school is located in an urban area of a socio-economically well-to-do community. It is located in the center part of an urban residential community.

The atmosphere in the school is good but teachers seemed to be suspicious when it came to greeting visitors in their school where apparently there are many. Once this project was accepted in the school, cooperation was complete in most instances.

The school principal is highly concerned with the quality of teaching in his school considering the remarkable training level of his teachers.

The pedagogical programs offered in areas for two teachers were open to many new experiments. Highly adequate instructional materials created by the teachers and the students were noticed.

In the in-service training area, teachers have been involved in several projects in collaboration with researchers and task forces as well as in individual study programs.

In this school, a good part of the time was devoted to art and artistic expression in all its forms which everyone seemed to enjoy.

PRINCE RUPERT SCHOOL (closed area)

Located in a rather rural area, this school is part of a socio-economically middle class community. It is a traditional school where only Levels Four, Five and Six are accommodated. First cycle students are housed in another school located in the vicinity. This is the reason why there were missing data for the First Cycle of this elementary school.

The atmosphere was rather good in this school. The school principal was open to pedagogical renewed programs and attempted to guide his teachers in this direction. There was no apparent team spirit and individualism was noticed among teachers. Some teachers did not seem very motivated in their work and the pedagogical performance was very traditionnal. But for one or two cases, there was little or no instruction material expressing some kind of renewed pedagogical program.

There is nothing remarkable to report on this school.

SECONDARY SCHOOLS

NOTRE-DAME COMPREHENSIVE - ANCIENNE-LORETTE

This school is a large comprehensive high school which accommodates, among other, the students from Jacques-Cartier and Etincelle Schools.

Since there were only two open-area schools in this sector in 1976-1977, students who attended open-area elementary schools and who are now attending this comprehensive high school are in limited number - 75 students out of the 400 Secondary I students.

In this comprehensive high school, students were little or unknown to their teachers. During an interview with the ten teachers selected for Profile Personality, they found out that two out of the 15 selected students whose names appeared on the official lists did not attend the school; yet this interview took place during the month of March.

During the interviews, teachers refused to devote any time outside school hours and the team spirit appeared to be limited.

POLY-JEUNESSE COMPREHENSIVE - STE-ROSE DE LAVAL

This comprehensive high school accommodates students who attended open-area elementary schools in a proportion of 85% including those from Vaillancourt School.

However, students from Prince-Rupert School are not attending this comprehensive high school. As a result, students chosen for the Profile Personality instrument in the traditional school category came from other schools of the City of Laval district.

The spirit in this comprehensive high school was good in spite of the size of the building and the large number of students. The team spirit and the collaboration between teachers and the school principal appeared to be excellent. Order, cleanliness, discipline as well as the open type of pedagogy were some of the characteristics observed in this comprehensive high school.

COURVILLE SECONDARY SCHOOL (girls)

ULRIC HUOT COMPREHENSIVE (boys) Beauport

At Courville Secondary School there are only Secondary I female students who come from three neighboring districts of a rural type but who have the advantages of the vicinity of the town.

This is a public school whose organization and operation are closely related to the private school system.

The school principal and the staff were conscientious and the academic performance of individual students are closely followed up.

This school accommodates students from Commandeur-Desjardins School (girls). The staff and the school principal had a very negative attitude toward this school on account of its lower school marks than in other schools.

At Ulric Huot Comprehensive, Secondary I male students are integrated in the large comprehensive where all Secondary levels are included. They are lost in the mass of students from both the social and academic point of view.

This school accommodates as in Courville School for girls, students from three neighboring districts including the boys from Commandeur-Desjardins School. Teachers who collaborated in the Profile Personality instrument made negative comments on the academic achievement, the way of working and the performance of students attending Commandeur-Desjardins School. They hoped, among other, that research projects should involve the academic aspect.

Secondary I teachers appeared to be working as a team and in agreement with the school principal.

LE MANOIR SCHOOL - Mascouche

This school accomodates only Secondary I male and female students. Students came from six or seven neighboring parishes from which more than half of the students attended an open-area elementary school including Du Rucher and La Mennais Schools.

This school is located in a rural economically weak area where there are many emotionally disturbed students. Teachers complained about the poor academic performance of a large number of students and the behavioural problems of many of them.

Montreal:

ELEMENTARY SCHOOLS

REGION I

LUDGER-DUVERNAY (closed-area):

The school is located in what appears to be a rather pleasant, "petit-bourgeois" type of surrounding with nice houses and prosperous industries. Although in more or less the same area as St-Joseph, the idea of "zone grise" is far less prominent.

An observer does not get the feeling that the aggressive behavior rate is as high as in St-Joseph's. The school has essentially two opposite types of classes: a traditional, authoritarian, rigid type versus a liberal "open-area" type. It was clear from the children's reactions that the observer created much more disturbance in the first than in the second type of class.

The sixth grades function as a typical open-area class, despite the presence of walls. The teachers taught some lessons together and some on their own, with homogeneous subgroups. Children have periods when they work on their own or in groups on whatever topic they choose, and they can go out of a given room without asking the teacher.

There was one "remedial education" class and one 2nd-3rd grade class which functioned along similar lines as above though with only one teacher.

The principal was a dynamic, open-minded, liberal person seeing that the teachers attempt new pedagogical experiences with his help.

ST-JOSEPH (open-area):

The school is surrounded by industries, railroad networks abandoned houses and waste grounds. It is a "zone grise" with all the consequences that carries: poverty, truancy, multi-problem families, poor academic interest and results.

There is a high level of aggressivity, hence no recess is allowed in this school because too many violent encounters have been reported previously. There is a high rate of absenteeism, some children being absent from school for weeks. Rather strict, authoritarian measures are imposed to keep children under control. The classes are very sensitive to any disturbance such as our presence as observers.

The fourth and sixth grades were the only two levels as far as I recall which were functioning more or less in an open-area fashion: no walls, students working on different topics simultaneously. But the lessons in these groups were traditional and the children were required to remain in one area to do their assigned work for a given period. In all the other grades, teaching was traditional, walls having being re-installed by using blackboards and other divisions. A few teachers agreed with open-area teaching, but for reasons like "I can specialize and teach only the topics I enjoy, the other teacher doing the other topic." There was one "remedial" class gathering second and third grade children who showed learning problems. It functioned essentially like the fourth and sixth grades. The principal was extremely enthusiastic about the open-area school project, was herself very much aware of the problems and tried to remain in touch with the teachers.

REGION II

LOUIS-HIPPOLYTE LAFONTAINE (closed-area):

The school is in an old building, located in a lower socio-economic area.

A very reticent, questioning team of teachers eventually agreed to having the testing sessions and the questionnaires to teachers, but strongly refused to have an observer in their classes nor to be interviewed.

SAINT-LOUIS (open-area):

Lower socio-economic population. This is a modern though poorly designed open-area school with no walls on each floor, so that the level of noise is dramatically high since you hear what goes on in the other grades. It seems the architects forgot to consult the educators. The atmosphere is one of conservatism and restrictiveness. The principal and assistant patrol during recess and check that everyone behaves during the lessons. If not, students are sent to the principal, with or without the teacher's request.

Only the fifth grade kept somewhat open-area teaching for some topics. All the other grades virtually rebuilt the walls with blackboards, shelves, etc. The teachers are not at all enthusiastic and plan their requests for transfer to a traditional school, hence there is a relatively high turnover of teachers every year (an exception to the pattern in most open-area schools).

REGION III

ST-FABIEN (closed-area):

This is a much smaller school than in the other regions. It is located in a middle-class, suburban area.

Observations and testing took place during two important events: the carnival, the visit of a grade six from an Ottawa primary school (with all the festivities preparative fever it implies). The atmosphere was thus one of celebration. The teachers were at first rather reticent at the idea of having an observer in their classes, but after much explanation about the purpose of the project, the atmosphere was friendly, although one teacher found coping with my presence very disturbing.

The director is extremely dynamic and enthusiastic and seems to play a major role in the school, having a close contact both with the teachers and with the children. A very rich experience is going on in one fourth grade with the new pedagogical idea of "a magic circle" and because of a very good teacher attentive to the specific needs of children and able to find ways of improving the atmosphere and efficiency of work. The class is very much functioning in an open manner, but with only one teacher and a small number of children. The sixth grades are a very dynamic, responsible group of students who are able to assume a leadership role in the school because of the willingness of the teachers and the principal.

GUILLAUME-COUTURE (open-area):

This school is a very modern, well-designed open-area school, with walls between the different grades, washing basins in each area, large windows, large spaces which can be divided into four sections, and with only two or at the most three groups per section. It was the only school with such facilities. It has a mixed population, half middle-class and half lower-class. There is a great variation between the grades, depending essentially on the teachers' teams. For instance, in the fourth grade the three teachers have been working together for several years, consequently the atmosphere was relaxed, happy, inventive, and liberal. The sixth grade, on the contrary, was a new team experiencing personal conflicts which showed up in the general atmosphere of the class.

The principal is dynamic and had been very close to the teachers' teams, but there is presently a feeling that problems are rising. Nobody openly talked about them, but they did during interviews. The fourth and fifth grades function as open-area classes with mixing of groups for activities. The sixth grade has a somewhat open-area type of functioning, but without the interaction of more than one teacher at once, because of personality conflicts. The remaining classes seem to function in a rather traditional fashion with artificial walls in place.

BARIL (open-area) (Pilot Study):

This is a very large school located in an upper-lower socio-economic area. The inner part of the school had been rebuilt to convert the school into an open-area school. The school appears to have few problems with truancy, vandalism, etc.

The teachers and the direction are open-minded, enthusiastic, interested in the project as a whole. The children are active, relaxed, interested in the observer's presence, for example, coming to talk with her during the lesson without the teachers' intervention. The teaching staff considers itself as not working as an open-area school, because after several years of various trials, people have lost faith in that method. However, some teachers work in pairs with larger groups, each one being responsible for one academic subject. This is one of the schools which gives you the feeling that having tried very hard to work according to an open-area philosophy, they gave up having lost their illusions. Nevertheless, they retained certain practices like a decrease in disciplinary measures and an increase in students' autonomy which came with the open-area schools.

REGION A

LUKE CALLAGHAN (closed-area):

This school is situated in a largely Greek immigrant neighborhood of a middle working-class level. It is divided into boys' and girls' divisions. Only the girls' school was used in this study as the boys' side was not initially willing to participate.

Luke Callaghan Girls' school is a rather old building and is constructed like a typical traditional school (i.e., individual classrooms with rows of desks, a blackboard, etc.). About half the teachers in the school have rearranged the desks into small groups, but all desks face the teacher at the front.

The atmosphere at the school is generally very pleasant. Teachers were all co-operative; all who were asked agreed to interviews and all staff completed questionnaires. The principal appears to have firm control over the school. She exerts considerable presence and runs the school in a highly directive manner.

The school has maintained same very traditional routines, saying "Good morning" and prayers all in unison. Teachers do some switching of classes within the same level (e.g., one teacher teaches science to two classes). Teachers seem to cooperate within levels in sharing stencils, etc., however, I did not witness any team-teaching (with 2 teachers present in the same class at the same time).

NAZARETH (open-area):

Nazareth is in the same socio-economic and geographical milieu as Luke Callaghan but was recently constructed as an open-area school. My first impression of the school was very favorable. At the initial meeting I was asked very pertinent questions about the project, indicating that I was dealing with dynamic, well-informed staff. They enthusiastically agreed to the study. The atmosphere in the school is notably more creative and enterprising than at Luke Callaghan. A family-grouping program was started in 1975. The staff in this program explained their goals and activities to me in much detail. The lower grade areas are effectively sectioned off into individual classroom units by blackboards and bulletin boards. The noise level is noticeably high and there is some resentment among staff because of this. There does not appear to be much team-teaching in grades 2 and 4, although the grade 2 teachers switch classes for 2 subjects. The grade 6 level is not partitioned off into 2 units but rather this level functions as one unit. The 2 teachers have their desks side by side and do a lot of group-teaching. One teacher will take the high math group while the other takes the lower one. However, both are usually teaching the same subject at the same time. These teachers have been working together for 3 or 4 years. This level seems to be well-organized in respect to grouping. The students seem to relate to teachers as "their own."

The principal in the school appeared to be a jolly, friendly gentleman, who related to staff on a peer level. However, he unfortunately became ill early in the year and the administration of the school was taken over by the vice-principal. There was a noticeable laissez-faire attitude in the school. Certainly, the principal was not in the least authoritarian.

This was the only school in which a teacher actually threw observers out. It was a 4th grade teacher who said "She just didn't want to be watched anymore". This happened on the 3rd observation. Only 3 or 4 questionnaires were returned by teachers in this school.

REGION B

ALL SAINTS (closed-area):

All Saints school is situated in the north end of the city in a largely Italian neighborhood. Families here are middle class, second-generation immigrants. The building is traditionally-constructed, but much newer than Luke Callaghan. Desks are for the most part traditionally arranged, although several teachers have arranged groups of few students working together. Invariably, the teacher's desk is the focal point.

This school was a particular pleasure to visit (of all the English schools). The principal is extremely friendly and related very well to us. He seems to have a controlling hand in the school but his methods are centred on good rapport rather than authoritarianism. The teachers were, for the most part, very interested in the study and cooperative. Here, as well, all staff responded to the questionnaires.

There seems to be team preparation of materials and discussion of children. No actual team-teaching occurs (i.e., two teachers in the same class at some time). Occasionally teachers will switch classes for certain subjects.

The school is particularly proud of its reading department. They have developped a very good remedial reading program which students from other neighborhood schools attend as well. We were given a special tour of their centre.

GERALD McSHANE (open-area):

This school is situated in the same neighborhood as All Saints. It is a very large school with approximately 800 students. It is a fairly new building constructed as an open-area learning environment. There are typically 5 classes per area. Many of the areas were set up in traditional style with rows of desks and the teacher at the front. Some teachers have arranged desks in a U-shape while others have adopted a small group model.

Our first meeting at the school was with the principal. He said we would have to ask the staff council for permission to work in the school. The school council appeared to be highly politicized. This was evident at the subsequent council meeting where we were presented with great numbers of questions in a rather formal way.

In the open areas, artificial walls have not been set up, however teachers function with independent classes. There is extensive heterogeneous grouping in this school for mathematics and language arts. Some teachers in every level are teaching in the annex which has been built with individual classroom units. Some have opted out of the open area to teach there. We never entirely felt at home in this school, perhaps because of its size, but also because of the political climate in which the study may have been a point of contention.

SECONDARY SCHOOLS

REGION I

CHARLES LEMOYNE

This is a modern, recently-built school in a greyish, more or less dirty-looking building with Philips guards in the cloak-rooms. It is very much "zone grise" with high rate of truancy and physical violence, and one of the few secondary schools with both male and female students. We ended up being two female supervisors and the testing session was not that difficult.

My only encounter with the teachers was during the interviews, since the principal thought it would be too difficult to organize a meeting. The principal also expected that I would have a lot of problems setting up interview periods, and was doubtful about our chances for success. Not all the teachers requested came; yet over half of them turned out to be very cooperative. Most of them expressed doubts about the functioning of open-area schools and expected to have more problems with children from these schools. Despite the doubts, on so many sides, all were nevertheless very helpful with the project.

REGION II

STANISLAS

This is a secondary school for boys,with male teachers, located in an old, depressing building which was closing by the end of the year. It served a lower socio-economic group where we find high rate of truancy, aggressive behaviour, and vandalism.

There was an authoritarian, strict atmosphere in the school, intended to cope with a seemingly high level of violent acts, and children with police records.

The teachers were very negative towards open-area schools which they think lead to behavioral problems and poor academic achievement because of its liberalism. Some teachers claimed they could guess who came from what school (open vs. traditional) according to the children behaviours. Their guesses were often wrong.

LIONEL GROULX

The situation is identical to Stanislas, except for girls being the students. There was a friendly, cooperative atmosphere between students and teachers, the administration being somewhat in the background.

REGION III

LOUIS RIEL

This is a very modern, well-equipped building used by an ever-growing population located in an expanding residential area. It is a middle-class population in the majority, with large groups from less wealthy backgrounds, formerly a boy's school where girls are now included for the first year. I met only one female teacher.

It is a very big institution, with apparently little contact among teachers, similar in atmosphere to CEGEPs. Only two teachers came to the initial information meeting, but most teachers came to the individual interviews. It appears to be a strict, authoritarian milieu, where the administration requires the students to wear trousers, not jeans, etc.

The teachers are generally doubtful about the teaching in open-area schools and expect children from such schools to do worse academically and to be the ring leaders of uncontrollable groups,though they generally ignore who comes from what school.

MARIE-REINE (for supplementary study):

Formerly a convent, it is located in an old building with old-fashioned classrooms, in a lower socio-economic area with a high rate of truancy, aggressive and even delinquent behavior. It now has a half boys and half girls population.

For teachers and the administration are, on the whole, very dynamic, close to students' problems, and willing to improve the atmosphere of the school by trying out new pedagogical methods, and so on. But some children, many of whom have important family difficulties, have behavior close to delinquent and slow down academic changes.

The teachers and the direction seem to keep very close contact and were generally favorable towards open-area type of teaching in elementary schools.

JEAN-BAPTISTE MEILLEUR (for supplementary study):

This is a boy's secondary school with male teachers, located in a very old building in a lower socio-economic area.

General atmosphere: The assistant-principal is a very cooperative person, keen on knowing the results of this project and on helping as much as possible to ensure the success of this research. He seems very close to the students with whom he talks a lot.

REGION A

CARDINAL NEWMAN

This high school is fed by Luke Callaghan and Nazareth elementary schools. The school building is quite old and dark looking. There is a startling contrast with Sir Wilfrid Laurier High School. The vice-principal preferred to make all arrangements with us herself, without using her staff as an advisory body. The school appeared to be run in an authoritarian style. All the grade 8 students were following CORE programs. On the whole, the conduct of the study had to be very routine, even distant rather than involved.

REGION B

SIR WILFRID LAURIER

This is one of the two English high schools used in the study. It is situated in the North end of the city in the neighborhood of Luke Callaghan and Gerald McShane schools. The school has initiated a CORE program for a number of its grade 8 students. In the CORE program, students have a fewer number of teachers and stay with the same classmates for most of the day. Interestingly enough, all grade 8 students who have come from open-area elementary schools have been designated for this program.

The school personnel were extremely friendly to us and cooperated fully. The principal of the school is also president of the Principal's Council of the school board and was described by his staff as a really competent director who is largely responsible for the creative, friendly atmosphere in the school.

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